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OCTOBER, 1879.

IN ENGLAND the government attempts, and not unsuccessfully, to guard the people against adulteration of food and other frauds, by laws the violation of which is pretty sure to bring upon the guilty ones the most severe penalties. In this free country we are left to the protection of our own wits from the tender mercies of speculators. Still, the English horticultural journals occasionally make sad complaints of frauds perpetrated by those who seem to have no regard for honest dealing, and little fear of wholesome laws. An evil, however, that neither Great Britain nor any of the European countries have to deal with, is the tree-dealer. He is, we believe, an American "institution." From the deep mutterings and the outspoken complaints and maledictions one hears, apparently the great evils the agriculturist has to deal with are insects and tree-dealers; these two, and the greatest of these is the tree-dealer. The press in all parts of the country, from time to time, make detailed statements of transactions they engage in that every one must condemn. In one place "the chaps are taking orders for Apple trees grafted on the White Thorn, at fifty cents each. Freedom from all kinds of insects and early bearing, are the advantages claimed." We need not inform our readers that no such stock is propagated. In another place they are selling a Grape-vine that is said to grow in tree-form, and to bear a one-seeded fruit. Some are selling for Rose-trees a

tall briar stock, about three feet high, with a bud inserted near the top, for the pretty sum of five dollars each. Numberless cases of this character can be given, but the worst are those of whole orchards being planted with trees of varieties that were never ordered and that are comparatively valueless; many years are passed and much care and labor expended in cultivating and pruning, and at last, just when he thinks his toil and anxiety are about to be repaid by a profitable crop, the planter discovers that his confidence has been betrayed.

The agricultural and horticultural press has long advised planters to be careful of whom they ordered trees, and to deal only with responsible nurserymen, or their agents, or of dealers proved to be honest in their dealings, and in various ways we have warned planters against irresponsible and unknown dealers. We think, however, that those who buy are a little to blame, because, through want of knowledge, they often refuse to accept trees that are genuine and good, on account of some peculiarity of size or form that are really marked distinctions of the kinds ordered. It has really become difficult for an honest man to succeed in this trade, and why this is we will try to show before we conclude this article.

The question is asked, why have an agent, why not always deal directly with the grower of the trees? To this our best nurserymen would reply, that a middle-man between

the nurseryman and the planter is a necessity to the trade. One or more middle-men are required in every branch of trade, and in this trade, which is one of great detail, requiring the movement of the stock in large quantities in a short space of time, as the actually busy season is only a few weeks in each year, and the stock requiring special skill in handling, the assistance of the middle-man is of the highest importance. Even when Granges buy in large quantities directly from nurserymen for their patrons, they are obliged to perform the service and to assume the responsibility of the agent.

In some cases, when the trade is of sufficient importance, a purchaser will find it of advantage to apply to the nurseryman without intervention; but in the larger number of cases this will not be done, and, apparently, it is more advantageous to deal with the agent. We say apparently, for, if the agent prove to be an unreliable one, the advantage is lost. In making purchases of only a few dollars worth, it is really better to deal with an agent, if the trade is honorably conducted. The inducements on the part of the agent to falsify are numerous; he necessarily offers his stock by representation, not by exhibiting the goods, and it is made to appear to the imagination of the purchaser in the best light. When the stock is on the ground and before his eyes, the purchaser must depend upon the word of the agent in reference to its intrinsic character, unless he is able to judge of the species or varieties of the plants by their appearance, and this is seldom the case.

Oftentimes purchasers have ideal standards of certain classes of stock, with which they will compare all specimens of whatever variety; for instance, the customer demands Apple trees to be a certain height and a certain diameter at the base, and straight, and, upon these expressed conditions, he gives an agent an order for a hundred Apple trees, twenty-five of them are to be Rhode Island Greenings, and twenty-five more of them Esopus Spitzenburgh; the trees are to be four years old and first-class stock. The agent having taken his orders for the season, informs the nurseryman how much of each kind and what quality of stock is necessary to supply his trade; he states that his Apple trees are to be thrifty, four-year-old trees of a certain size. The nurseryman digs the trees required and delivers them to the agent; among them are the Rhode Island Greenings and Spitzenburghs. Now, any one having a knowledge of this kind of nursery stock is aware that the Greenings will be more or less crooked, and perhaps not quite up to the height of the other trees, and the Spitzenburghs, even if of the proper height, will have light bodies.

The agent is informed that these particular varieties grow in this manner, and that the trees he has received are a fair sample of their kinds compared with the other sorts of the same age. The trees are packed and carried to the customer. The result is, the purchaser complains of the crooked and the light trees, notwithstanding the explanations of the agent. Very likely he can show that his next neighbor, that very week, or, perhaps, the season before, bought the same kinds of trees of another party, and they were strong, heavy, straight trees, and refuses to accept either the agent's statement or any of the trees unless a reduction is made in the price, and this sum may be quite, or nearly, equal to the profit on the whole transaction. The reduction demanded is made and the affair is ended. The difficulty the agent met with in this case is variously repeated during the delivery of his goods, and at the close of the season he finds his profits reduced to the smallest amount, if not entirely swept away. What, now, about the precedent produced in the settlement of this case, and that overruled the fair and honest statement of the agent? The fact is, the agent that delivered the strong, straight trees said to be Greenings and Spitzenburghs, had learned by experience that fault would be found if he carried the genuine stock, and so took the precaution to provide himself with some handsome trees of Talman's Sweet and label them the kinds ordered. When they were delivered to the customer they were received with satisfaction, paid for cheerfully, the agent asked in to dine, and another order promised the next season. This agent's salary is a liberal one, while the honest man, if he maintain his integrity, is, perhaps, obliged to seek some other employment, where the strain on his moral principles will not be so great. The example is not exceptional, but applies essentially to all nursery stock. Strong-growing Cherry and Plum trees do duty for a score of sorts by being labeled to correspond to the orders they filled. The same can be said of other fruit trees, Grapevines, Roses, and so on through the entire list. We need pursue this subject no farther, and refer to a correspondent who relates his sad experience in selling trees.

A few weeks since the Nurserymen's Association held a session in Cleveland, and resolved that, while they deplored the existence of unscrupulous agents and would do all they could to expose them, and furnish regular agents and dealers with proper certificates, they could not dispense with the traveling agents, who are the efficient means of largely increasing the number of trees planted.

TOWN AND SUBURBAN GARDENS.

There was a time, as even those not old may well remember, when it was the proper thing according to custom and received ideas, in planting trees about a residence, to draw a line and set them in straight rows; so, one had only to select such as he preferred from the few native sorts usually employed for this purpose, and unhesitatingly put them in their places, one in this corner and one in that, and so many between; a variation might have been made for a tree by the well-side or a Lilac bush at a favorite window, otherwise the rule was inflexibly observed. This state of things in most places and with most persons has passed, or is passing, away. The labors of eminent horticulturists in Europe and Great Britain, and notably, of Downing in this country, and of others who have succeeded him, the many beautiful places they have created and the wide dissemination of their writings through the press have apprised the public of a noble art, which they may, if they will, see exemplified in some degree on their own grounds, even if not of great extent. Hence, now-a-days, every intelligent person, who, however, may not have given special attention to the subject, feels a reluctance to planting ornamental trees even about his own home. The result is that the services of the professional gardener are secured by those to whom they are available; while many others are seeking a knowledge of those principles which will enable them to beautify their grounds in accordance with good taste. Seeking to serve our readers upon this subject, and recognizing the truth of the proverb, that example is better than precept, rather than make formal statements of principles we propose, from time to time, to give illustrations of places that actually exist, and in which principles of correct taste are in some measure embodied.

To determine where trees shall be planted by a straight line, is a very simple matter, and when we say that ornamental trees, except along woods and avenues and for special purposes, cannot be so planted with propriety, we are at once beset with two questions which it is necessary to answer at the outset. One of these questions is, why is it improper to plant trees in straight lines? and the other, how can it be determined where they should be planted, or what rule can they be set by? The answer to the first of these queries will imply even if it does not fully convey an answer to the second one; but it may as well be stated here that no rule is to be given by which the position of trees or shrubs may be fixed upon ornamental grounds.

We shall endeavor to make plain to the comprehension of every intelligent reader certain fundamental principles relating to this subject, and when these are understood, the practical application of them to any particular case must depend upon the good judgment and skill of the operator or designer, or planter himself. The reason that there is an impropriety in taste in arranging ornamental plants, shrubs and trees in straight or formal lines of any kind is, that there is a mental pleasure in the formal arrangement of objects that have a regular, or geometrical outline, and that when bodies have not this precision of form, an arrangement according to their qualities or uses, or according to some necessity in the existence of the objects themselves is almost an instinctive demand of the mind. With regard to vegetation, this is an arrangement we perceive in nature, and it is pleasant to the eye. Some plants have their position determined on account of some peculiarity of soil or proximity to water, or of their relation to other plants, as, for instance, those shrubs and smaller plants that only flourish in the shade of larger trees. This peculiar feature in relation to the locality and position of plants might, with much interest, be illustrated at great length; but an allusion to it only, leaving each reader to consider the subject at pleasure, serves our purpose to show why correct taste requires the arrangement of plants upon ornamental grounds according to the modern, or what is called the natural, style of gardening. The extent to which nature is followed in modern planting is not more than the recognition of the simple principle or principles involved in the natural grouping or location of plants. No such thing as a servile imitation of natural scenery is attempted; on the contrary, art does not attempt to deceive or to form a planting that by any possibility could be mistaken for a nature scene. Often, upon a small plot of ground, will be grouped features of beauty rarely seen in nature, and which to be thus seen in as great perfection, or even at all, would require hundreds, or perhaps thousands, of miles to be traversed; besides, in artificial planting, specimens of the vegetation of the four quarters of the globe may be brought together and so arranged as to present to the eye an harmonious and beautiful view.

“This is an art

Which does mend nature: change it rather; but
The art itself is nature.”

Let us come now to the examination of the second question, which is, how we are to



THE BUTTS RESIDENCE, ROCHESTER, N. Y.

determine the location of any particular plant of whatever kind. In the use of the term, plant, it is intended to apply to any kind of vegetation, whether herb, shrub, or tree. First, we must consider the special object of planting; such, for instance, whether it is for the general outline of the plant itself, or for some peculiarity in its foliage, or the beauty of its flowers or fruit, or for some peculiar effect that may be produced by it in connection with other plants; we must take into account the positions from which the object will be most frequently and prominently in view, and, also, what views it will intercept. The picture of the whole planting, the completed scene, must in advance be sharply photographed upon the imagination, and each particular object be mentally arranged to produce a desired and pleasing effect. The position and character of plants in relation to walks, roads and buildings is a consideration of much importance. When we think of the almost infinite variety in the size, shape, and general appearance of the plants used for decorative purposes, the endless differences in the forms, sizes and colors of their leaves, and their dissimilarity in many other characteristics, it will be perceived that the living material is rich in capacity, and that, to be employed to the best advantage, it demands the exercise of the highest skill and an intimate acquaintance with the peculiarities of the character of each particular species and variety. On small places, such as village lots, it cannot be expected that any feature of what would be properly considered a landscape can be produced with any force; still, the same principles,

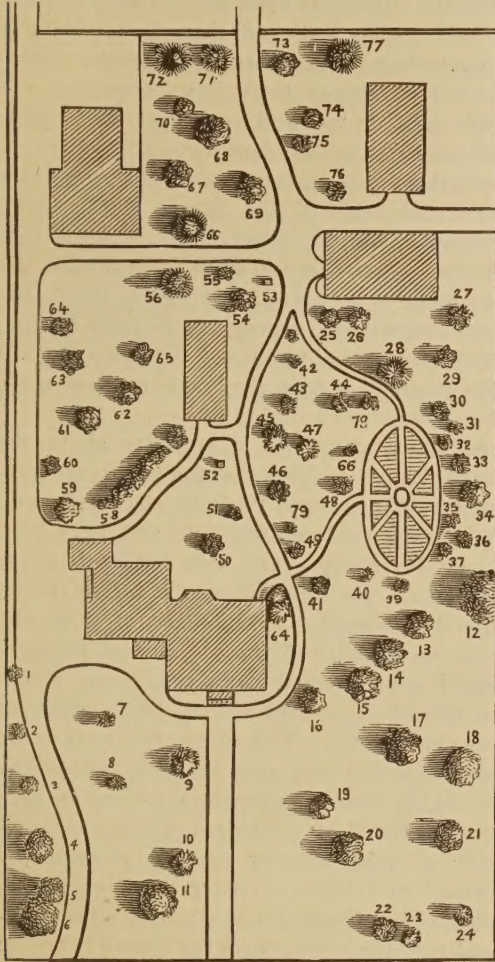
as far as possible, are observed in the arrangement of these limited areas, and with the best results; consequently, even to plant skilfully a small plot of ground, it is necessary to comprehend the general principles applicable to ornamental planting and be able to adapt and modify them according to the necessities of the case.

The illustrations here presented are of the grounds at the residence of the family of the late ISAAC BUTTS, situated on the south side of East Avenue, one of the principal and most beautiful thoroughfares of our own pleasant city. This avenue runs in a direction almost east from the business portion of the town, and throughout nearly the whole of its length is lined with costly places, many of which have some claims to taste and elegance.

The perspective view of the place is from the opposite side of the avenue, and is a very correct scene at midsummer. The surface of the lawn is a little above the grade of the street, but is not uniform in this respect in its entire width, as, at the west line, where it is nearly the same level, a gradual rise commences, and the highest part is a little beyond the entrance. By an easy rolling terrace the turf is brought down to the street level and then carried up to the flag walk, and beyond the walk it extends to the curb-stone of the street. One of the most pleasing effects of a lawn is produced when its surface conforms to the natural undulations of the ground; on such a surface all slight inequalities should be reduced until it is smooth and even, but no attempt is to be made to destroy the natural roll or wave.

At the outer edge of the walks on each side

of the roadway are rows of shade trees, and as there are no front fences in this locality, and even no division fences or hedges, the grounds on this part of the avenue have a beautiful park-like appearance. It will be noticed that the trees are all fine specimens, and this is in a great measure due to the fact, that in planting great care was exercised to allow each tree ample room for its perfect development, and then they have been allowed to assume their natural forms without mutilation by the pruning-knife.



PLAN OF ORNAMENTAL GROUNDS.

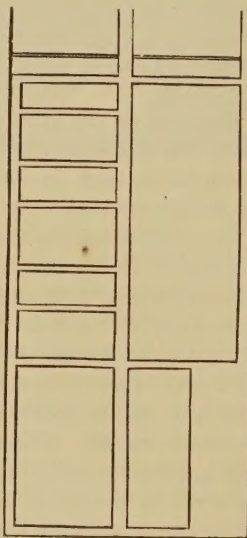
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|----------------------------|---------------------------|
| 1. Mountain Ash. | 18. D'ble Flow'ng Cherry. |
| 2. Virginia Creeper. | 19. Purple-leaved Beech. |
| 3. Weeping Elm. | 20. Oak. |
| 4. Norway Maple. | 21. Scotch Elm. |
| 5. Hickory. | 22. European Weeping Ash. |
| 6. American Elm. | 23. Magnolia conspicua. |
| 7. Maple. | 24. Cut-leaved Birch. |
| 8. Cut-leaved Alder. | 25. Syringa. |
| 9. Cut-leaved Birch. | 26. Spiræa Reevesii. |
| 10. English Elm. | 27. Weeping Ash. |
| 11. Oak. | 28. Norway Spruce. |
| 12. American Elm. | 29. Lilac. |
| 13. Norway Maple. | 30. Weigela rosea. |
| 14. Scarlet Flow'ng Thorn. | 31. Deutzia scabra. |
| 15. Magnolia tripetala. | 32. Irish Juniper. |
| 16. Japan Quince. | 33. Mahonia. |
| 17. American Beech. | 34. Norway Maple. |

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|------------------------------|------------------------------|
| 35. Juniperus. | 58. Screen of N'rw'y Spruce. |
| 36. Thuya Hoveyi. | 59. Apple Tree. |
| 37. Syringa. | 60. Japan Quince. |
| 38. Laburnum. | 61. Apple Tree. |
| 39. Deutzia gracilis. | 62. Cherry Tree. |
| 40. Spiræa prunifolia. | 63. Junipers. |
| 41. Japan Quince. | 64. Japan Quince. |
| 42. Cornus sanguinea. | 65. Lilac. |
| 43. Kentucky Coffee Tree. | 66. Norway Spruce. |
| 44. D'ble-flowering Althæa. | 67. Oak. |
| 45. Chionanthus Virginica. | 68. Oak. |
| 46. Tartarian Honeysuckle. | 69. Norway Maple. |
| 47. Japan Quince. | 70. Salisburia adiantifolia. |
| 48. Liquidambar styraciflua. | 71. Norway Spruce. |
| 49. Japan Quince. | 72. Norway Spruce. |
| 50. Seckel Pear Tree. | 73. Yellow Wood. |
| 51. Pæony. | 74. Kilmarnock Willow. |
| 52. Vase of Flowers. | 75. Pæony. |
| 53. Vase of Flowers. | 76. Weigela rosea. |
| 54. American Arbor Vitæ. | 77. Norway Spruce. |
| 55. Flowering Currant. | 78. Spiræa. |
| 56. Norway Spruce. | 79. Spiræa lanceolata. |
| 57. Persian Lilac. | |

The form of the grounds is a long parallelogram, 210 feet wide and 810 feet long, and is shown in the plan in two parts on a scale of 100 feet to the inch; the rear part, represented by the smaller outline sketch, is devoted to the fruit and kitchen garden. The length of what may properly be considered ornamental ground is 400 feet, and at that distance back a grape trellis divides it from the garden beyond. The main part of the residence is 120 feet from the front line, and is approached by a straight walk ten feet in width. The walk is smooth flagging with gravel on each side, and is reached from the street by means of three broad, stone steps. At the termination of the main walk, narrower ones lead in each direction around the sides of the building and to the rear grounds. Back of the dwelling and about seventy-five feet distant is a cold-grapery, and leading from this, farther down, is a walk to the forcing house and conservatory, and back of this is a hot-house for forcing exotic grapes. On the opposite side of the grounds from the hot-house is a large building occupied as stables, and carriage and harness rooms. The position of the buildings named may be at once perceived by reference to the diagram or plan. The carriage entrance is on the east side of the place, and the road is formed by two gentle curves which bring it to a wide area at the side of the house; beyond this it is continued in a straight line to the stables, and to the rear of the grounds.

In the arrangement of grounds, to define the walks and drives, is a work requiring both skill and care. To an artist a straight line conveys the idea of utility, while beauty is perceived in a curved line. As one of the highest objects of ornamental gardening is the embodiment and expression of beauty, we should expect the curved line to be used when it can with pro-

piety be employed. The essential element of good taste is good judgment, and, as the shortest distance between two points is a straight line, this requires that, in passing from one spot to another over a level space, we proceed in a straight line unless some interposing object oblige us to deviate from it. The observance of the elementary truths just stated in respect to the straight and the curved line determines the direction and form of walks and drives, and to some extent the corresponding planting. The main walk in this place is straight from the front entrance. Whether the entrance to grounds should be directly in front of the main entrance to the building depends upon the locality; for instance, if the occupants of the house, or visitors, in their daily use of the walk, pass either way up or down the street coming or going equally in either direction, it is plain enough that the entrance should be directly in front of the dwelling; but if the house is usually approached from one direction only, then it is proper to make the entrance to the grounds at a short distance from the point where they are first reached.



FRUIT AND KITCHEN GARDEN.

As this place is upon a populous avenue and people approach it from either direction, the entrance is appropriately made directly opposite the main door. The carriage drive, as before noticed, is formed by two curves; this is more elegant than a straight road, and the reasons for making it straight do not exist, as in the case of the main walk. In the outline of this drive is perceived beauty of form, and in the traverse of it by horses and carriages, grace of motion. The necessity for the curve in the drive appears by the position of the trees through which it winds. By reference to the walks in other parts of the grounds, as shown on the plan, it will be noticed that the trees and shrubs stand so as to make an apparent necessity for their curving when they vary from a straight line. An important idea in planting grounds is to place the trees so that there may be lines of view for long distances through the grounds, and especially from the principal points of observation about the house. In this place this end has been well secured; the view

from every window is unobstructed, and several long lines of view extend into the grounds from the street. Between the trees marked 23 and 24 on the plan, the view extends in the direction of 15 and 16 as far as the grapery, and from the same point in a different direction by the trees marked 21 and 18 to the oval plat consisting of flower beds. The principal trees on these grounds were planted about twenty-five years since, and, consequently, most of them are now of large size and in their prime. They are allowed to grow in their natural form, branching quite low—still there is no difficulty in maintaining a good sod underneath; doubtless this is because there is no crowding and ample space is allowed each specimen. Notwithstanding the abundant room allowed every plant, the arrangement is such that the lawn about and back of the flower plat is quite screened from the street, thus securing that privacy so desirable and even necessary for the enjoyment of a garden. At figure 58 on the plan is represented a hedge of Norway Spruce, which screens that portion of the lawn beyond from observation from the house, as it is used, when needed, as a drying ground.

As some may have a curiosity about the flower plat, we will say that the oval is seventy-five feet in length and thirty-two feet wide, and the beds are bordered with box and have been so kept for many years; this edging is never allowed to get more than six inches high; when it becomes too strong it is taken up, the plants separated, and thus, by careful management, it is maintained in fine condition. Every year these beds present a new combination of plants and colors. This season two beds at the end are as follows: one, bordered inside the box edging with *Alternanthera magnifica*, then a row all round of *Centaurea gymnocarpa*, and inside of that another row of *Achyranthes Lindeni*, and then a center mass of scarlet *Pelargonium General Grant*; the other, bordered next the edging with the beautiful bronze *Pelargonium Marshal McMahon*, and then a row of the silvered-edged one, *Bijou*, next a row of *Coleus marmorata*, and then a mass of the fine pink and white *Pelargonium Father Hyacinthe*. The two beds at the other end are alike, except that one is bordered next the box with *Pelargonium Bijou*, and the other with *Marshal McMahon*; the next row on each is *Achyranthes Lindeni*, and then a row of *Coleus Verschaffeltii*, and then central masses of light-scarlet *Pelargonium Queen of the West*. The circular bed is divided into nine equal segments by lines running from the center to the circumference, each of which is planted in mass with *Pelargonium Bijou*, or *Marshal McMahon*, or

Achyranthes Lindeni, the colors appearing in star-shape; a large plant of Rose Geranium occupies the center. Of the other four triangular beds, two are planted with *Coleus*—a central mass of *Verschaffeltii* bordered by *Nelly Grant*; one is a bed of *Heliotrope* bordered by *Alternanthera*, and the other is bordered with *Lobelia Erinus marmorata*, and inside of that a row of the blotched *Pelargonium*, *Happy Thought*, and a central mass of the fine cut-leaved and fragrant *Pelargonium*, *Dr. Livingstone*. The borders of the graperies, which are not shown in the plan, are also occupied with flowers. The nearest beds in the kitchen garden are used for annuals and Lilies, *Gladioli*, *Dahlia*, and other bulbous and herbaceous flowering-plants, and here the plants from the conservatory are mostly bedded out during the summer. A minute description of all the beautiful plants raised on this place, and an account of the crops of fruit and vegetables would occupy much space; the active and intelligent gardener in charge, who occupies his time here not only for business, but because his labor is a pleasure, has always something to show for his care and attention.

The crops of Grapes in the graperies this season are remarkably fine, and we cannot here refrain from saying that we are sure very many would enjoy the luxury not only of exotic Grapes, but that of a cold grapery, if they knew how easily it is managed and with what certainty crops are produced, and how useful such a house is late in winter and in the early spring to start and bring forward young plants of vegetables and flowers, and that without interfering in any way with the regular crop. A lady that likes the employment, with only an hour or two each day, can easily manage a cold-grapery of considerable size, and much of the season even less time than this in attendance will be necessary.

The part devoted to the fruit and kitchen garden is a little over 400 feet in length and of the same width as the other ground. In the outline plan it is represented on a smaller scale than the other part, or on a scale of 200 feet to the inch. The main plot in the garden is devoted to fruit—Apples, Pears, Plums, Cherries, Peaches, Currants, Gooseberries, &c. Two large plots at the lower end are kept for the coarser vegetables, and the other beds are used for the finer vegetables and for Strawberries, Raspberries, Grapes, &c. There are no borders next to the outside lines, as the ground is enclosed with hedges—*Arbor Vitæ* on one side and *Osage Orange* on the other, and, as their roots extend in three or four feet, it is better to use the space alongside of them for walks than

for any other purpose; these walks are eight feet wide and the middle walk the same.

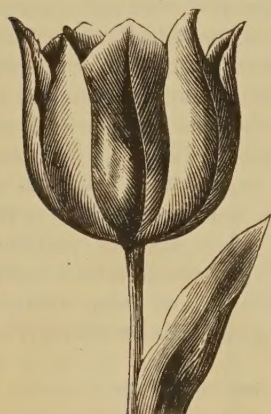
By a meagre outline we have now given our readers some ideas in relation to a very fine place; to what extent they can make them subservient to their own purposes and welfare must depend upon themselves. One conclusion, however, is evident, which is, that not only the residents of towns and villages may surround their dwellings with beautiful trees and shrubs, but every farmer may so adorn his home. The expense of procuring and planting trees is very little. A single acre of ground will admit of a beautiful display, and the same amount of land cannot be better disposed of, even in an economical view of the case. The first cost of trees is but little—even rare specimens are to be had at very moderate prices, and the planting and care of them will interest and attract every member of the household, and forge another link in the chain that binds each one willingly to the old home.

ASPARAGUS.

There can be no better time than the present to make Asparagus beds. Deep spading or plowing, and working in a good body of well-rotted manure upon a piece of well-drained soil are the essential preparations for the crop. Good, strong plants, one or two years old, should be procured, and of a good variety. *Conover's Colossal* is the best, and we advise it in preference to any other now in the market. There is a great difference in practice about the distance apart the plants are set. For culture on a large scale by means of the horse-hoe or cultivator, three feet by two feet are not too great distances; but in the garden, where it is necessary to economize space, the plants may be set closer—if the cultivator is to be used, the rows may be three feet apart and the plants set one foot from each other in the rows; if the hoe and the fork only are to be employed, they may be set as closely as one foot each way. To set the plants a trench about eight inches wide and six inches deep should be dug along the line, and in this the plants carefully placed, so that the roots shall spread out freely in every direction; after this cover in the plants, being careful to work in soil that is fine about the roots; this last caution is hardly necessary, for it is supposed that the preparation given the soil is so thorough that every spadeful is fine and mellow. After planting, cover the ground with a dressing of old manure, but do not use fresh manure, as it nearly always contains more or less of weed-seed ready to germinate in the spring.

THE TULIP.

At this season, the time for autumn planting, we thought our readers would be pleased and perhaps profited if we called attention to a few of the early spring-flowering bulbs. In our last we gave a colored plate of two good Hyacinths, and now present several of our best Tulips.



DUC VAN THOL.

The Tulip has been a favorite garden flower for many years. We need not repeat that thrice-told tale of the Tulip mania, and while we are in no danger of becoming insane on the subject of flowers, yet this flower is so brilliant and varied in its coloring, and so perfectly hardy, that it will always be prized by lovers of flowers. Nothing in the floral world can equal the dazzling brilliance and gorgeousness of a bed of good Tulips. We are unable to give in our colored plate representations of all classes, and, therefore, present only specimens of some of the finest varieties of Single Early and Double, and in some future number will show the other kinds. With the aid of a few wood-cuts, however, we hope to make the matter well understood.

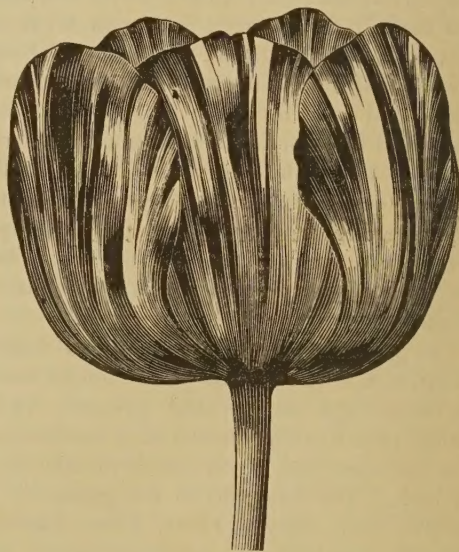
Any good garden soil will do for the Tulip. A very rich soil is not necessary, though well-rotted manure, rotted sods, or leaf-mold may be applied when the earth is poor. See that the drainage is good before planting. Plant in October and November. Make the soil fine and deep, and set the early-flowering kinds five inches apart and the late varieties six inches, covering them three inches deep. After Tulips have done flowering they can be taken up and planted close together in any corner of the garden until it is time to replant in the beds in the autumn, or Verbenas or other bedding plants can be set out between the rows, and before they cover the ground the leaves of the Tulips will be sufficiently ripe to be removed and the ground raked off.

Tulips are divided into two general classes, Early and Late, and these again into several others. The earliest Tulips flower in this latitude the latter part of April, and by a proper selection of early and late sorts a good display can be kept up for more than a month, if the weather proves tolerably cool and moist.

The earliest of the early class is the Duc Van Thol, single and double. They are in bloom here in April. The single varieties are of fine colors—white, yellow, scarlet, crimson, etc., growing about six inches in height, and make brilliant, dazzling beds. They are also excellent for flowering in the house during the winter, three or four in a pot. The double variety is about the same height, red, bordered with yellow. We recommend those not acquainted with them to try a few Duc Van Thols for winter-flowering in pots, or boxes, or baskets. Let the soil be very sandy, and if mixed with a little moss all the better.

The Tournesol follows the Duc Van Thol, with very large, double flowers, keeping in bloom a long time, and very desirable in all respects. Two varieties—orange and red, and very fine yellow. Good for pot-culture in winter.

Following the Tournesol is a large class of Single Early Tulips, containing very many splendid varieties, three of which are shown in our colored plate. They flower early, before the sun becomes very hot, and hence continue in perfection longer than later kinds. These can always be depended upon for a brilliant



LATE SHOW TULIP.

and enduring bed. No class of Tulips will give greater satisfaction. These, like the two preceding kinds, will give great pleasure grown in pots in the house. For bedding in masses, and especially for the formation of ribbon beds, these Single Early Tulips are unsurpassed.

The Double Tulips are becoming more popular every year, and this popularity is not unde-

served. Some are beautifully formed, with delicate shades and stripes; others are large and brilliant as the old *Pæony*, while others of equal size are fine yellow, rose, white, etc. The list of named varieties, possessing more or less distinctness, is quite large. One of the best, *Crown of Roses*, is shown in our colored plate.

The *Parrot Tulips* are exceedingly brilliant. The petals are long, loose and fringed. Most varieties have three or four colors, as crimson, yellow, orange and green, and the effect of a mingling of bright colors may be imagined.



PARROT TULIP.

Those who plant the *Parrots*, and are unacquainted with them, will be surprised at their gay appearance.

Of the *Late Tulips* there are many varieties, the distinction between each more or less clearly defined. These are the great favorites with florists the world over, and are truly magnificent, with tall, stately stems, usually eighteen inches in height, and large, well-formed, highly colored cups. The *Late Tulips* are divided into *Bizarres*, *Byblooms* and *Roses*. The *Bizarres* have yellow ground, marked with any other color. *Byblooms* have white ground, marked with purple and violet. *Roses* have white

ground, marked or variegated with rose, scarlet, crimson or cherry.

The engraving shows the general appearance of the *Tulip bulb*, though the varieties differ a good deal in form. A full sized bulb, when planted in the autumn, blossoms the coming spring. The bulb planted decays, flowering but once, and gives place to one or more new bulbs, that will bloom the next spring. These may be taken up or allowed to remain in the ground. As the new bulb has no roots, removal does not injure flowering in the least, though, unless replanted very early in the autumn, those that are allowed to remain in the ground flower a few days earlier. This is true of all bulbs that are taken up and dried.

We give the small sketches of *Tulip plants*, showing their comparative height and habits. They were taken from our grounds, and are as correct, perhaps, as can be, though different varieties of the same class vary much in height and in other respects. The large engravings show the flowers about one-half natural size.



TULIP BULB.

Those who desire to form ribbon beds of *Tulips* must be careful to select varieties of the height desired, and it is still more important that kinds should be chosen that will certainly flower at the same time, or the whole work will be a failure so far as ribbon effect is concerned. There is nothing handsomer in the world than a ribbon bed of *Tulips*, when the work is well done. Those who have had no experience, before selecting varieties for ribbon beds should consult with their dealer, that is, if they have any confidence in his judgment or integrity. Even the condition in which bulbs have been kept will affect the time of flowering. A home-grown bulb will flower a week earlier than the same kind grown in Holland.



DUC VAN THOL.



SINGLE EARLY.



DOUBLE.



LATE LHOW.



PARROT.



FLOWER CULTURE AT THE WEST.

MR. JAMES VICK:—Inclosed please find a photograph of a Gloxinia. I purchased three Gloxinia bulbs last March. They all grew and are doing well, I should think. One has two blooms on now and the other two are full of buds and will soon be in bloom. The flowers on this are all very nearly the same size, measuring two and three-eighths inches across the bloom and two and seven-eighths inches long. The leaves on each of the plants measured over seven inches long. The color of the flowers now open is white, with the least tint of pink, and a large blotch of carmine shades the inside. It is the most beautiful flower I ever saw. I always supposed the Gloxinia was difficult to cultivate, but find it no more trouble than the Begonia or Primula—I succeed with all these plants. As soon as all my Gloxinias are in bloom, I intend to have a photograph of the interior of my conservatory taken, and will send one to you; not that it is anything extra, only to let you see that we love and have flowers in Oregon. I have a fine collection of plants, shrubs and flowers of many kinds. I have eleven varieties of Begonias, four of them being of the Rex style; they are very large and perfect. I have Fuchsias by the dozen, and Geraniums by the score, including a New Life and Madame Amelia Baltet, the last two received last spring and are doing well. I have an endless variety of Roses, three Oleanders, one of them being a double pink one, nine feet and three inches high, and it is now loaded with blossoms; I have, also, a double white and a single white one that are quite large and drooping with large trusses of bloom. The Oleanders I put in the ground during summer, and take them up in the fall. Our climate is very mild and it may be they would live out all winter, but feel afraid to trust them. I have Abutilons, Dwarf Pomegranate, Primulas, Smilax, Maurandias, one a pure white; Heliotropes, Cactus, Lobelias, Tuberoses, many varieties of Lilies, Gladioli and very many more kinds of plants. I have a nice Fern case, two feet and eight

inches long and four feet high, eighteen inches of glass and six inches of earth, the rest is the stand, which I think a great deal of.

I would like to write more of my plants and describe my Fern case, but it would take too much time. I sat down only to write of Gloxinias, but when I commence writing of flowers, like talking of them, I never know when to stop.

Our Oregon people felt quite slighted when you came to California and did not come to see



GLOXINIA.

us. I hope the next time you visit this coast you will come to Oregon.

Your MAGAZINE is fast becoming popular in this place; last year my daughter, Lulu, got up a club of six or seven, this year she has commenced early and has already seventeen names and expects to get several more before she sends for it. As for myself I would rather do without any other magazine or paper that we take, than go without VICK'S MONTHLY MAGAZINE.

I hope before long you will give us your picture in the MAGAZINE, then next a colored

plate of Gloxinias, and an article on Gloxinias. I think ladies would cultivate them more if they knew how easy they are to manage—in fact, if they knew more about them.—MRS. WM. R. W., *Roseburg, Oregon.*

PLANT NOTES.

MR. VICK:—I notice your remarks on the *Sanvitalia*, and in reply I wish to say that it was an omission on my part in respect to its dark center. I intended to give and should have given my experience with it in this respect, and, if you have no objection, I will now do so. Three years ago I purchased a packet of seed of *Sanvitalia procumbens fl. pl.*, and from it raised about forty plants; when they came into bloom about one-half proved to be single, and from the remainder I selected six of the best and planted them in a place by themselves for seed. The second year I did the same, and the third year I repeated the process, always taking care to select the very best. I must say that I am not quite rid of the black center yet, but my plants show quite an improvement on the original stock. The plants set aside for seed must be closely watched, and as soon as the seed ripens it should be carefully saved, as it will be produced in small quantities; the more perfect the flowers are the less seed will be produced, and the seed does not vegetate as freely as the single, and the plants of the double variety are much weaker than the single while small. This plant stands dry weather remarkably well, and has this season given me great satisfaction. The early part of the summer was very dry, we had no rain of any account from May 10th until July 4th, and bedding and flowering plants suffered very much; some beds I had to plant over four times before I could get them to give satisfaction.

A pretty plant may be obtained by inarching *Abutilon Mesopotamicum* upon *A. Darwinii*, or some other strong-growing variety, and training it so as to form an umbrella-head, which can easily be done. The stock for this purpose should be about five or six feet high. Grown in this way it produces an abundance of bloom, and the flowers being elevated are seen in all their beauty. If *A. Mesopotamicum* is inarched upon *A. Thompsonii*, the result will be *A. Mesopotamicum variegatum*. A well-formed plant of this on a stock about five feet high is one of the finest of plants; whether in blossom or not, it is always adapted for decorative or exhibition purposes. Care must be taken at all times to keep them tied to stakes, as they are liable to be broken off by the wind. I had a fine plant of *A. Mesopotamicum variegatum*, on

a stock about seven feet high, broken off by the wind during a severe thunder storm a few weeks ago.

I wish to call the attention of the readers of the MAGAZINE to the value of some of the varieties of Fuchsias as climbing plants. They do not climb, strictly speaking, but, trained up pillars and the back walls of green-houses, they answer all the purposes of climbing plants, and, when in blossom, are beautiful beyond description. A few days ago I finished trimming a large Fuchsia, which has been in blossom since May 1st. It had a large quantity of buds and blossoms on it, but, as it was growing in the way of other plants, I had no other choice than to trim it back. The plant in question was planted in a well-drained bed of ordinary potting soil in May, 1870, and is about ten years old, and sixteen feet high when trimmed back. It is so trained as to cover the pillar from the bottom, and, when in full flower, is beautiful beyond description. The only treatment it receives is a mulch of a bushel of stable manure in May of each year, an occasional watering of liquid manure during its flowering season, and the strong-growing shoots tied up when necessary. I have tried several other varieties, but only found Glory and Coralina to answer the purpose satisfactorily. These two are old varieties and have not first-class flowers, but they are most profuse bloomers and are unexcelled for the purpose mentioned above. These remarks on Fuchsias are for greenhouse cultivation only, as I have not tried them outside, feeling sure they would not amount to anything out of doors.—C. E. P., *Queens, L. I.*

BALCONY GARDENING.

I want to tell you, for your encouragement, how a few suggestions in your FLORAL GUIDE induced me to try a balcony garden over my front door, and what came of it. I began with my house plants—common Geraniums, Fuchsias, foliage-plants and Lobbianums, with a few Ferns from the woods. That was four years ago. Every year I gained a little experience, until, at last, my balcony was a mass of bloom and attracted much attention. But the best part of my story is that many followed my example, and now our "City by the Sea" blossoms like the Rose. It would delight your good heart and artistic eyes to see the floral adornments and window-gardens all over Portland. Many of them are very lovely.

Your MAGAZINE is a treasure. I particularly enjoy the experiences of your correspondents, and only ask, like OLIVER TWIST, for more.—MRS. J. C., *Portland, Me.*

FROM A TREE-PEDDLER.

MR. EDITOR:—Some time ago something was said in your MAGAZINE about tree agents in connection with the proceedings of the Horticultural Society of Western New York. I also notice the same subject was under discussion at the late meeting of the National Nurserymen's Association, in Cleveland. It is rather a sore subject for me, for my wife always smiles when I read anything about tree peddlers, as she calls them. Now, there is nothing unpleasant in a smile, and yet it troubles me. The fact is, I was once a tree peddler, and only once. I was not fit for the business—too honest. It was a new revelation to me. I didn't know before that honesty would unfit a person for any respectable business, but so it is. I do not think, however, that many of the class are troubled as I was, for once when I was anxious about a particular variety which I could not obtain, but which I had promised a customer, one of them observed, "You are a little green; I can make any kind with a good pencil and a label." I have seen crooked, scraggly Apple trees pruned into dwarfs, and labels changed by the score to suit orders.

I think I had been strictly honest to the time when the circumstances occurred which I am about to relate. I believed in fair dealing, and had always acted up to this belief, when, in an unlucky moment, I determined to sell trees. Some of my friends appeared to be doing well in the business, and thinking as I had a fair share of energy and knowledge I might also succeed. Having made arrangements with one of the best nurseries in the country to serve me with trees, etc., and procured order-books and other necessities, I started on my mission, selecting the western part of Canada for a field of operations, supposing a comparatively new country would be in want of fruit trees and shrubs.

The farmers were called on as well as the owners of village lots and more pretentious residences, and orders were secured in a manner quite satisfactory, I thought. This was in the winter, for spring delivery. The season, however, was unusually late, and it was quite the middle of April before trees could be dug without injury to the roots. It was, therefore, necessarily late before trees could be delivered. This caused me a good deal of trouble, for many refused to take their trees because they did not arrive earlier, so I had to sell them to other persons at a sacrifice, or give them away. This vexed me. Some would complain because a portion of the trees were not as large and straight and fine-looking as others, although

they should have known that this was the habit of the tree and not the fault of the nurseryman.

I did not, however, feel indignant and indulge in any half-formed thoughts that it would be a fair thing to cheat some of these customers until I tried to deliver a gentleman a dozen Dwarf Apple trees, when I was met with a torrent of abuse. Such little bushes he would never take for Apple trees—no bigger than Currant bushes. So I told him I had some larger ones at the station, if he wished larger, but most people preferred small trees. I then went to the station and selected a dozen standards that some one had refused to take on account of the lateness of the season, and with these he was satisfied.

Plum trees at that time were troubled with the black knot in most sections of the country, and grew very poorly, but in Schenectady county and about Albany they were very fine, so, although the trees would cost me as much as I was to get for them, I determined to obtain those trees, and did, particularly as I had one order for fifty from a miller in the western part of the village of Woodstock. This man utterly refused to take the trees on some plea—I think they were not as large as he expected—and I sold them for less than the freight to other parties. By this time I was about ready for anything, having served a pretty good apprenticeship to the trade, and become satisfied that I could not pursue the business honorably and live. A little more experience would have made me a good tree-agent.

I had about twenty orders for a settlement west of London, mostly Scotch people, and this was the end of my journey. The first man I saw when unloading the trees from the cars was one of my customers, who gave the startling information that it was so late all had agreed that they would not receive a tree. They had talked the matter over and had become unanimous in this. I had now become desperate, and would have cheated these people, I think, with a good relish. Trees that cost me several hundred dollars all to be wasted because of the unreasonableness of my customers. One man seemed to be a leading character in the neighborhood, and for him I had a small order. I formed my plan, hired a horse and buggy and drove to his residence. He confirmed the report I had heard. I told him the trees were in good condition and fine in every respect, and the season was late and cold, and invited him to examine them in the morning. More than this, he was informed that I designed to make him a present of the trees he had ordered, and would like to hire himself with horse and wagon to help deliver

the trees. Thus I bribed him. He accompanied me, praised the trees, said how pleased he was with his order, and I collected all my money, and returned home with just about enough to pay for my trees, and not a penny for my winter's work. I have not sold trees since, but I think I could and make money, if I would be mean enough. The fault is not all on one side.—AN EX-HONEST-TREE-PEDDLER.

MY WINDOW GARDEN.

MR. JAMES VICK:—I have grown plants more or less for thirty years, and love them as well as ever. I don't like to wash the leaves and pots as often as they need it, in order to have them look nice, so have been planning to get rid of it. Two winters ago I had an idea, which, put into practice, succeeded so well that I am moved to tell the readers of the MAGAZINE about it, so they can do likewise if they have a mind to. To begin with, then, I have no conservatory, or even a bay-window, only one south window in my sitting room, that I can use for plants. At this window, half way up, is a walnut shelf a foot wide supported by iron brackets, and on it is a zinc pan painted drab, with an inch of sand on the bottom to keep the pots moist. My idea was to enclose this window from the room, with the shelf inside, so as to exclude dust and include moist air. I communicated my idea to a carpenter, and his hands completed the practical part, and my window-garden stood completed. I am well pleased with it and the plants are, judging from the way they grow. Now for details; I had a table made of black walnut, as long as the window is wide including the casing, two feet wide, and six inches deep. It is plain on the sides, has handsomely turned legs finished with casters. There is no top, at the bottom inside is a cleat on which rests narrow slats of pine, and on this a zinc pan just the depth of the sides. An inch of damp sand supplies the moisture, and the warm air from the furnace comes in contact with the pan underneath and furnishes bottom heat. So much for the table. The sides are of walnut and reach to the top of the window-casing. The front consists of two glass doors, opening in the center, each one made of two panes of glass. The top is made of walnut and finished with a handsome molding similar to a bookcase. The top is fastened to the table with four large screws, and to the top of the window with small brass hooks and screw-eyes. The whole can be removed from the window in a few minutes. An outside window in winter bids defiance to Jack Frost. To keep the air fresh I open the doors of the

garden in the middle of the day, and open an outside window. Now I will tell you what plants I have kept this last winter, and what success I have had. On one side of the case in the lower part is a Hoya trained on a flat circular trellis, almost a yard high. It is a solid mass of green, shining leaves. On the other side is a Catalonian Jessamine trained to a trellis, full of buds and blossoms; two Heliotropes, dark and light; Abutilons, *Boule de Neige* and *Roseum superbum*, a lovely rose-color, and never—well, hardly ever without blossoms; *A. Auguste Passewold*, the most beautiful variegated Abutilon there is; *Vinca rosea alba*; *Begonia odorata*, *Begonia Rex*, *Cyclamen*, *Primrose*, red and white. Next the glass doors is a *Lomaria Gibba*, or Tree Fern; *Cyrtomium falcatum*, *Adiantum cuneatum*. On the shelf are three *Bouvardias*, scarlet, pink, and white; *Fuchsia speciosa*, *Tecoma jasminoides*, *Gesneria exonesis*, *Carnation*, *Edwardsia*, and *Campsidium filicifolium*. All these have flourished and made my garden gay with blossoms. At different times I have had *Hyacinths*, *Polyanthus Narcissus* and *Duc Von Thol Tulips*. I have noticed that the flowers hang on longer than when kept in the dry air of the sitting-room. The plants are not half the trouble they were before and so I think my window-garden a success. When winter is gone its mission is not ended; while I am writing to-day, with the thermometer among the ninetieths, my garden is still a pleasure, and gives me a cooling sensation when I look through its glass doors. On a shelf in a large pot is a Japanese Climbing Fern, *Lygodium scandens*; it is trained on strings and covers the upper half of the window. In the lower part on one side is the Hoya, now full of lovely clusters of bloom; on the opposite side is a *Cissus discolor*, trained on a trellis like the Hoya. In the center I have Ferns, *Adiantum cuneatum* in a ten-inch pot, it measures, outside the foliage, thirty inches; besides this is *Cyrtomium falcatum* and another Fern I do not know, and a lot of *Lycopodium Martensii*, green and white; *Begonia Rex* and *Silver-leaf Begonia*. At ten o'clock in the morning I close the blind, open the window, and then open the blind when the sun has gone away. The Ferns grow beautifully.—MRS. M. P., *Lynn, Mass.*

A FINE CALLA.—I want to tell you about my Calla Lily. It has had thirteen flowers already, and I think will have more. Some of the flowers measure over six inches one way and eight the other. It grew in my living-room, by the fire-place, all winter.—E. M., *Oleta, Cal.*



SUMMER TREATMENT OF INDOOR PLANTS.

Considering how much cheaper the culture of various plants, which are largely used in green-houses and conservatories in winter and spring, when planted out during the period of growth is, in comparison with pot culture, it is strange that this method does not find more favor. Our forefathers acknowledged its merits, but their methods of treatment were of too rough and ready a character. New Holland and Cape of Good Hope species, Azaleas and Camellias, were by them, soon after the bloom was over, taken out of the pots or tubs in which they grew and put into mixed herbaceous borders, or into the foremost ranks in the shrubberies. The labor of watering them and cleaning them from insect pests was thus very much lessened, but it is questionable if the subjects so treated would now-a-days meet with the approval of a good plant grower; for owing to the deficiency in the average garden soils of those ingredients necessary to proper development of foliage and flower, they would not attain the same beauty as when otherwise grown. Old practitioners, I think, failed in not making beds or borders of the mixtures of soils that the various classes of plants required. When such borders are made well-drained, where needed, and of materials of not too fine texture, many plants do wonderfully well in them and reward the cultivator with fine foliage, healthy, green, and free from insects, and if the wood is fully ripened, with abundance of bloom; to ensure the latter, sunny positions only should be selected for the beds, which should, if possible, run north and south. Indian Azaleas are very apt, after blooming profusely for two or three years, to make weak growth, and very small, wiry leaves. When that happens they should be put out into the border as soon after flowering as the weather permits; if well-rooted, the outside of the ball should be loosened with a pointed stick, and in one season their renovation will be complete. It will thus be understood that the plants are to make their growth out of doors. Herbaceous heaths, of course, require a peat-

bed—Abelias, Boronias, Acacias, Hakas, Cytissus, Citruses, Hoveas, Correas, especially alba for the making of stocks for grafting. All these should be planted out, as also should *Cantua dependens*, *Plumbago capensis*, *Agnostus sinuatus*, *Cyclamen* of all varieties, *Rhynchospermum jasminoides*, *Bouvardias*, *Pimeleas*, *Aloes*, *Pittosporum undulatum*, *Banksias*, which are required to be grown large, and *Eucalypti*. These are but a few of the genera of which I have so treated, and which have always rewarded me with satisfactory results.

Stopping and pinching, when thought necessary, and in the case of such subjects as will bear it, can be done just as well as in pots. But this oft reiterated system of constant pinching and pruning back leads certainly to the attainment of a greater quantity of smaller blooms, but at the sacrifice of the longevity of the plant so treated. Graceful tassels, bunches and garlands of bloom partly hidden amongst healthy foliage, are objects of greater beauty than the round-headed and otherwise trained monstrosities too often seen. I may mention in conclusion that the *Camellia* does very well planted out, but in no case should it be put out if it has already made its growth under glass, or when an early bloom is looked for; *C. simplex* planted in the form of cuttings in a frame for two summers, and protected slightly from the frost during winter, makes strong stocks for grafting or inarching. *Cinerarias* make better plants for winter and spring use if planted out in a frame; the leaf is finer, and insect pests are less troublesome. The beginning or middle of September is a suitable time to lift and repot all subjects named above that are not hardy, and for a few weeks after they are housed they must be subjected to a close but healthy temperature.—SYLVESTRIS, in *London Garden*.

The above statements represent a method practiced in Great Britain. In our climate *Camellias* must have some slight shade, such, for instance, as is offered by trees under the edges of their branches, but not far under in the densest shade. The list of plants given

above can be almost indefinitely extended and include all our greenhouse and house plants. Some of the most successful cultivators in this country treat their plants in this way by turning them out into the open border the last of May or first of June. About the first week in August each plant should be cut about with a small spade, leaving a ball about the right size for potting. The effect of this is to check the excessive growth of the plants by cutting off most of the strong roots; the plant immediately commences to make new, fine roots where the others were cut, and in a month, or early in September, each plant can be lifted with a good ball of earth and with a mass of fine, fresh roots, in a most beautiful condition for potting. The advantages of this treatment are so great, it is surprising it is not more followed. The attention required by the plants during the summer season is very slight, the plants are thriftier and give more bloom; and, lastly, they are strong and robust when they are ready to go into the house.

THE PLOW IN THE GARDEN.

The use of the plow and the cultivator in the garden is a practice the advantages of which we have already advised our readers. The following remarks, from a correspondent of an English journal, show that the same subject is attracting attention in Great Britain. If it can be any advantage in that country where the value of land is greater than it is here and manual labor cheaper, it certainly would be a gain to use the plow and cultivator here, instead of spade and hoe, in family gardens of any considerable size:

"Probably the day is not far distant when all large vegetable gardens in this country will be cultivated by the plow to a great extent, and spade labor, except for few special subjects, will become a thing of the past. The use of the plow within the garden walls has been suggested pretty often within late years, but the suggestion has not been as yet received with much favor. One chief reason of this is that our kitchen gardens are at present so planned and arranged that the plow could not be used to good advantage. The system of dividing the ground enclosed into small plots or quarters devoted to both vegetables and fruit trees renders the use of the plow all but impracticable. Before it can be introduced successfully we must remodel our vegetable gardens, and there is no valid reason why that should not be done, when new ones are formed or old ones have to be altered. Plow culture would also entail larger gardens, for the close-cropping system could not so well be followed; but that would matter but little,

for the extra ground required would be cheaper than the extra labor incurred in spade culture. First of all, it would be necessary to get rid of the idea that the kitchen garden must be an ornamental as well as a vegetable ground. The proprietor must come to regard it in the same light as one of his Wheat or Turnip fields, and nothing more; and now with our spring, summer, and wild gardens this is not too much to expect. Gardeners would undoubtedly welcome the change, for the plow would save them much labor and anxiety.

"The present system of cropping kitchen gardens is the cause of much waste of time and labor. The more plots the greater the extent of useless margins, walks, alleys, and walk edgings, that have to be looked after. Reckoned up, it is simply astounding the extent of walks in some private kitchen gardens—gardens which the proprietors hardly look round once a year or more. The cost of producing kitchen vegetables and other crops for the house really does not represent more than a portion, and that the least, probably, of the cost of maintenance, the greater part of the labor expense being incurred in keeping and dressing walks and borders and vacant ground. Hence, too, it is that private gardens have got the name of being unremunerative; but, as a matter of fact, vegetables, if measured by their actual cost of production, and not saddled with the extra expense incurred for other purposes, are produced cheaper, as a rule, in private gardens than anywhere else. The fault lies in the plan of our kitchen gardens, which entail a certain degree of good order and dressiness, irrespective of the necessities of vegetable culture. A garden laid out with trim walks and miles of Box and other edgings, and fruit trees and flower borders, looks simply disgraceful, if not kept tolerably well up to the mark at all points; but do away with the necessity for such keeping and no one expects it, and nothing appears to be wrong. Those who wish their kitchen gardens kept up in flower-garden style have a perfect right to have their wishes gratified, of course, but, as a matter of fact, nine-tenths of our large private kitchen gardens are a shame to be seen. Ill-kept walks, worse-kept edgings, and untidy borders are a satire on the style. One portion of the ground might be set apart for the culture of small bush fruit (all fruit trees like Apples and Pears being confined to an orchard), and the bushes should be planted in straight lines right across the quarter. The remainder of the ground would, of course, be reserved for vegetables, and here all the Brassica tribe (including Turnips), Spinach, Peas, Beans, Carrots, Beet, Parsnips, Onions, Potatoes, &c., could be sown or planted

by the plow or seed-drill in sections without a break or alley anywhere. The small French farmers, some of whom have only a little piece of ground, not so large as some English kitchen gardens, follow this plan successfully, as may be seen by any one traveling on the railways in France. Of course, early crops could be grown on warm borders as at present, but these form but a fractional portion of the crops of a kitchen garden. Such a garden as we have described would, we submit, look much better and be much more easily managed than one laid out on the usual complicated plan. We shall probably be met with the assertion, ground worked by the plow would not be deep enough for many kitchen garden crops; but the objection will barely hold good. No doubt a deep soil is beneficial, and there need be no difficulty about trenching the ground deeply in forming a kitchen garden, but the farmer has proved conclusively that as good root crops almost can be produced in the field as in the garden by intelligent culture, and that, too, where the soil is not very deep. One has only to point to the monstrous Mangolds, Beets, grand Potato, Turnip, Carrot, and Cabbage crops that are constantly raised as field crops in proof of this. It should be borne in mind, however, that very large vegetables are not always the best for kitchen use, nor preferred. On the contrary, moderate-sized samples are always preferred by cooks; and, so far as this applies, the produce of the farm just suits his wants as well as that of the garden.

"We believe the plow is employed in several market gardens about London, and it only needs an example setting to show what can be done with it in private gardens. Those who from any cause find their kitchen garden too expensive to keep up in the old semi-ornamental style, and yet wish to save it from becoming a half waste piece of ground, would do well to eradicate the unkempt walks and borders and turn the plow into it. A kitchen garden should at least be as cleanly and well cultivated as a farm, which is cropped at considerably less cost, and where this cannot be done something is wrong; but it is well known that hundreds of gentlemen's gardens are in this plight."

A CHILDREN'S FLOWER SHOW.

We find the following report of a Children's Flower Show, in London, in the *Gardeners' Magazine* of July 16th:

Sir THOMAS CHAMBERS opened the third annual flower show of the Aldenham Street Sunday School, at the St. Pancras Vestry Hall, on Saturday afternoon. The flowers and plants were the result of the exertions and care of the

boys and girls attending the school named, which is in connection with Regent Square Presbyterian Church, Somers Town; and the prizes were awarded by the judges, Mr. J. CUTBUSH, Highgate, and Mr. A. MACKENZIE. There were nearly three hundred exhibitors. Sir THOMAS CHAMBERS, in declaring the exhibition open, said he accepted the invitation to do so with much pleasure, as he took a great interest in the cultivation of flowers. In a city like this, where a large proportion of the population lived in rooms or habitations the reverse of cheerful, owing to deficiency of light or air, the appearance of flowers afforded much relief. He was old enough to remember when flowers were scarce at dinner tables, whereas now, as a rule, such tables were almost hidden with flowers. He was old enough to remember when one could pass by whole rows of houses and see no flowers, but now one could scarcely move a yard without seeing flowers displayed in windows, the cultivation of which could not fail to be gratifying to all—the owner and the beholder. There was now a passion for flowers, and he thought that the love of flowers produced an excellent moral effect. Flowers had no use other than to cultivate ideas of beauty, and if children were taught to look at God's works and contemplate nature's embroidery of flowers their moral nature would be opened up. In the evening the prizes were distributed by Mr. JUSTICE and Lady FRY.

FLAME FLOWERS.

These plants have by their great beauty and vigor shown their own merits so eloquently that there is no need for us to say a word in their favor. There may be other kinds to add to our collections, and rare ones to make more common, but otherwise Tritomas, or Flame Flowers as they may be aptly called, have become accepted as among the treasures of our collections of hardy flowers. There is, however, something still to be done as regards their arrangement. They are occasionally planted in excess, so as to neutralize the good effect they might otherwise produce, and they, like many other flowers, have suffered from being, like soldiers, put in straight lines and in other geometrical formations. It is only where a fine plant or group of plants is seen in some green glade that the true beauty of the Flame Flower is seen, especially at some little distance off. Although not exactly belonging to the very free-growing and extremely hardy genera of plants recommended for the wild garden, they are so free in many soils that they might with confidence be recommended for that purpose.—*London Garden.*



A PROPER VILLAGE PRIDE.

On another page we have given a letter from one of our subscribers in a Pacific state. We are always pleased to hear from our distant friends, and especially to learn that in a new country, such as Oregon, horticultural taste is increasing among the people. It is a pleasure to learn that an art, the practice of which conduces only to happiness and well-being, is cultivated and cherished by any people; but particularly agreeable is it to know that it receives the attention of those who, by the conditions of a pioneer life, must necessarily have a great share of their time occupied in practical bread-winning and in the ordinary routine of domestic duties. That the same cares demand the attention and the time of the mass of our countrymen we are fully aware, but in the older sections there is more or less accumulated wealth in families, making it comparatively easy to devote some attention to those arts that minister to beauty. To a certain extent, our people have acquired horticultural ideas and tastes and laudably practice them according to their ability; but there are places not remote from our great centers of civilization in this country where it would seem as if the cultivation of Sweet Corn and early Potatoes marked almost the extreme limit of the progress of horticulture in those localities. In a recent visit to a section in the southwestern part of this State the contrast of two neighboring country villages was strongly presented. In the one is displayed considerable architectural taste in the private residences; many of the yards are tastefully planted, lawns are neatly kept, flowers well cared for brighten the pathway of nearly every home. There are several church buildings, plain but neat, erected some years since, but a new church not yet completed, although built of wood, is of handsome design, and a large stone edifice of fine proportions in the center of the town is the village academy. The fame of this school has extended through all the adjacent country, and this, with the other attractions of the place, is inducing many families to come

there and make it their home. Thus the place is becoming a center of learning and of taste.

The other village, though inhabited by people most of whom are in comfortable circumstances, and surrounded by a thrifty agricultural community, presents nothing exteriorly to invite the stranger. Everything has a happy-go-lucky sort of expression; only here and there is to be seen a street tree, as if it came there by accident; the walks are grown over with grass and weeds, excepting a narrow path in the middle, worn clean by frequent footsteps. Few trees, shrubs, or flowers adorn the yards—a Lilac bush, a Mountain Ash, or a Crab-apple tree and a Yellow Lily are the principal plants cultivated for ornament; the grass in the front yards is apparently never mowed, but is allowed to fall down and remain, unless a horse is turned in to graze it down; in front of the house, and perhaps with one end attached to it, and the other to a tree or the fence, the clothes-line is stretched, and here on washing days all the family linen is displayed, and an odd garment or two on most other days indicate the utility of this family article. The fences, which at some time were apparently a laudable pride and the only indication of such weakness in the proprietors, now, since the cattle laws are enforced and there is no longer a necessity for them, are allowed to remain out of repair, and are neither removed nor mended. The houses and the churches present a storm-beaten appearance, for the reason that a new coat of paint is not applied until almost all trace of the old one is undiscernible.

Such Rip Van Winkleism is not confined to one village; there are many such even in this State, and apparently the great need of these places is a man or a woman with cultivated taste to take the lead and inspire the community with a desire for improvement. When this desire is once awakened it will be discovered that "it pays" to keep the grounds and the buildings tidy and tasteful. The increased durability of the buildings will repay for the extra paint used upon them; the attention given to the

planting, cultivation and care of the grounds will enhance the value of property, if not directly, indirectly—strangers will be attracted to the place, the perception of beauty will augment the pleasure of all who behold it, and the attractions of home will be stronger.

FLOWERS OF THE NORTHWEST.

MR. VICK :—If there is no such thing as a blue Rose, what will you say to a blue Snapdragon. I send you a small piece of a spike that is over a foot long and the



PENTSTEMON.

brightest blue imaginable. It grows wild here. I will try to save some seed when it gets ripe. There are many flowers here that are new to me. I wish I could send some fresh, but it is too far. I send a curious pink flower that has no green leaves; root, stem and flower is all there is of it. Can you give me a name for it?—
MRS. C. E. M., Spokane Falls, Wash.



LEWISIA REDIVIVA.

Not exactly a blue Snapdragon, but a bluish Pentstemon, *P. glaber*; a very beautiful flower, and worthy a place in a border of perennials.

The plant with the pink flower is *Lewisia rediviva*, and is a member of the Portulaca family. It has small leaves clustered about the crown of the plant, but we suppose our enquirer has not looked close enough to perceive them. The fact is, the leaves wither and die about the time the first blossoms appear, and probably the plant is not noticed until it flowers. This plant was named from Captain LEWIS, the companion of CLARK, the first explorers of Oregon and Washington Territories. The common name is Canadian Bitter-root. The root is considered a wholesome diet by the Indians and travelers. It is dug when the plant is in flower, and at that time the bark easily slips off; the root is boiled and then retains but little of the bitter taste to which its name is due. The favorite mode of eating it is with the marrow of the buffalo. The flowers are said to vary in color, some being white, or nearly so, some rose, some brick-red, and some have a purplish tint.

THE GLOXINIA.

MR. VICK :—I write to make inquiry about the cultivation of the Gloxinia. I saw three beautiful plants in bloom at the home of a lady in this city. The lady said she bought them last spring but knew very little of their requirements. She appeared to think it more good luck than anything else that she succeeded so well. I wish to purchase some bulbs when the right time to plant them comes, and hope before that time you will give us a colored plate of them in the MAGAZINE, also a description of them, telling where their native home is, when to send for bulbs, whether they should be dried off like a Hyacinth, or if it would be any better to keep them slightly moist the year round. They are the most beautiful plants and flowers I ever saw, and, I learn, are durable, that is, the flowers stay on a long time. I shall not be satisfied till I know more of their history.—
GLOXINIA, Roseburg, Oregon.

Modesty is usually a characteristic of true merit and is fairly exemplified in this cultivator of the Gloxinia. The fact is, the lady's general ideas of plant-culture are excellent, and her care of plants is no doubt untiring; this is the secret of her success, and not good luck.

The Gloxinia, which is a native of the tropical region of South America, may be raised from seed by sowing early in spring in a soil of finely sifted leaf-mold and garden loam in equal parts, and about a fourth part of sand added. The pot or pan should be well drained and the surface soil pressed down firm; on this sow the seed and cover very slightly with fine soil, moisten and cover with bell-glass, or otherwise, and do not allow the soil to become dry. A temperature that does not fall lower than 65° at night is most suitable. As soon as the young plants appear place them near the glass, for, unless they have plenty of light, they will become drawn. When the plants have acquired a little size they should be transplanted so as to stand

a little distance apart, and when the leaves are about an inch long the plants can be potted off singly into small pots in soil similar to that already described, and kept in a warm, light place. As the plants acquire size and fill the small pots with roots, they can be shifted into larger pots in which to make their growth and to bloom.

The Gloxinia is also propagated under certain favorable conditions, by the leaves, but for the amateur cultivator with ordinary facilities it would be useless to attempt the practice of this method.

The mature bulbs which are kept over winter in sand in a dry cellar, at a temperature of about 50°, can be potted any time from February to May; a five or six inch pot can be used and the bulb planted so that its top will be level with the surface of the soil; water sparingly until the leaves begin to appear. When the pot is filled with roots shift the plant into one of larger size; plenty of light and heat and a somewhat moist atmosphere are necessary to raise this plant in perfection, but air should be given freely, for, if kept too close and moist, the plants become weak.

To prolong the flowering season an occasional watering of manure-water should be given; when the plants in autumn show signs of failing the watering should be decreased in frequency and amount, and when the tops are dead allow the bulbs to dry and then store them away for winter.

FLOWERS FROM SEEDS AND BULBS.

MR. VICK:—I want to tell you of my success with seeds and bulbs that I bought in the spring; not but what I have had failures and disappointments, but when the seeds failed to come up the first time I tried again, and by paying closer attention to the advice given in the GUIDE, had better luck next time, although I have had many difficulties to contend with in the shape of frosts, hens, and small children. The first in the list is the



COBÆA SCANDENS.

vine, *Cobæa scandens*, because it is the tallest of them all; of the six seeds that I had I gave three away and three I planted myself, and I should have had three plants if I hadn't become impatient and pulled one up

to see if it was growing; those that I gave away all failed to come up. I set my two plants out early, one on each side of the window, on the east side of the house. They now reach nearly to the roof, a distance of twenty feet, and are covered with beautiful flowers. The Asters I have from the little Dwarf Bouquet up to the Giant Washington, with its great white heads, four or five inches across. I have, also, Petunias, Balsams, Pinks, Phlox, Verbenas, Zinnias, Gladioli, Dahlias, and some others that I do not think of now, and all are in bloom and give me great satisfaction. The *Datura* has not done so well as the others; it is only about a foot in height and does not grow very fast. What kind of treatment does it need, and will it flower this summer? Lastly, because the shortest, comes the Evening Primrose, *Oenothera acaulis alba*. I have five plants from which I have had thirty-five or forty flowers—from one to five appearing each evening; they attracted much attention and were much admired by all who saw them.—E. L. S., *St. Johnsbury, Vt.*

A little manure-water may help the *Datura* along, but before these lines can reach the eye of our correspondent, we have no doubt it will have bloomed satisfactorily.

EXPERIENCE OF PLANT CULTIVATOR.

MR. VICK:—I wish to thank you for much pleasure and profit derived from your MAGAZINE, and especially for the advice given in the May number in regard to "A Rose Insect." I followed the advice. One bush died entirely to the ground, but sent up numerous shoots from the roots; the other is mostly dead, probably owing more to the late, severe winter than to the *Diaspis rosæ*.

In the same number (May) you had an article headed Post Office Nonsense, in which you regret the inconvenience to your patrons of Canada in not being able to send silver through the Post Office. The remarks are applicable to the United States laws. I wished to send fifty cents to England, and, living in a small town where no system of International Money Orders existed, I sent the silver. It is needless to tell you it was returned to me from Washington.

I have a splendid plant of *Clianthus Dampieri* which was planted in March, in a small pot, and placed in a hot-bed. It was transplanted into the open ground in the latter part of May. It has had dozens of bunches of its gorgeous blossoms on since the 5th of August. Two of the branches measured fifty-six and seventy-three inches, respectively, so it is much too large to think of taking into the house this fall. Can you tell me of any way to preserve it? Is it a perennial? Shall try to save a part of it by making cuttings.

A friend told me, early in the spring, how to have Tuberose in July and August. I planted three in an eight-inch pot, in rich garden soil; set the pot in a milk crock, and each morning poured the crock full of boiling water, emptying out the water used the day previous. One was in bloom in July, the other two before the middle of August. Those planted out doors are just coming into bloom.

In *St. Nicholas* I saw a statement that *Heliotrope* grew to a height of twenty-five feet. I can easily believe it, as I have a plant, the seed of which was planted in March, which now measures thirty-eight inches in height and quite enormous. It has not bloomed.—CERES, *Illinois*.

If the *Clianthus* is taken up and the roots trimmed and the branches cut back, it may possibly bear transplanting into a large pot or tub, if kept in the house at a temperature, during the early part winter, of about 50°. As spring

advances and new roots have started, the heat may be increased and the plant given all the light it can have. Only water enough to keep the soil slightly moist should be given for a number of weeks, but after growth commences the quantity can be gradually increased.

CHAT ABOUT FLOWERS.

"Spake full well in language quaint and olden,
One who dwelleth by the castled Rhine,
When he called the flowers so blue and golden,
Stars, that in earth's firmament do shine.

Wondrous truths, and manifold as wondrous,
God hath written in those stars above;
But not less in these bright flowerets under us
Stands the revelation of his love."

So sings the poet, and how many others, who have not the gift of song, feel all that is here expressed, though their lips are silent. And now that the season of flowers is rapidly leaving us, and the white finger of frost will soon gather our latest bouquets, we begin to think of winter-blooming plants. How they brighten our rooms with their blossoms, the little, perishable jewels, lifting up their frail faces amid the chilliness of winter, and holding summer enshrined within their folded leaves. They make a spot of June warmth and richness in our rooms and in our hearts, and right well they repay us for all labor and time bestowed upon them.

We value a picture, a curious stone, a bit of coral, or any relic we may chance to find; but even more to be treasured are these flowers, these tender "thoughts of God," giving forth so much beauty for our care. Day by day in their voiceless patience, they unfold to our eyes the miracle and mystery of plant life—leaf, bud, and blossom all hidden within a tiny seed. Some cling with fragile fingers to our window sash, and climb up and over our wall; some reach earthward and fringe our plant table with their delicate greenness; others stand tall and without support, and fill the air with perfume. Sweet flowers! how desolate were all the fair fields without you! How like a soul without song, were summer without her attendant angels! How like a night without stars, or a day without sunbeams, were a year without flowers!

I would be glad to know which are the best winter-blooming plants. I would say in return to all lovers of flowers, take up some late Petunias, cut them back pretty well and pot them for the house. I did so with some a few years ago. I had several beautiful varieties, and they commenced to bloom in February, and were almost covered with flowers until June. They were the most interesting plants I have ever had in winter, for we never knew what a morning would disclose; sometimes a blossom would be partly double, or two blossoms would have grown together, or one would be fringed on one side, or present a number of queer little points around the edge; and nature played various other freaks with her late-blooming beauties. I think any one who will pot a few Petunias for winter will be fully repaid for his trouble, and if you object to the oddly-fashioned blossoms, you can pinch them off, and yet leave your plants covered with blooms. The small, purplish-rose Petunia, with white throat, seems most liable to play all these queer tricks.—Mrs. C. E. F., *Fond du Lac, Wis.*

Probably there is no plant that will give more flowers in winter than the Chinese Primrose, but then it is necessary to sow the seed of it in May or June, or July at farthest, and carefully tend the young plants, and raise up some strong stocks. Of course, a supply of plants can be

purchased in the fall if one has not raised them. The Dutch bulbs, Hyacinths, Tulips, Crocuses, Snowdrops, and Narcissus, are excellent for winter-flowering; Oxalis bulbs, too, will give abundant bloom, and the Cyclamen is particularly desirable. Some varieties of Begonia are excellent, and so are the Bouvardias and Carnations. The Calla is a household favorite, and it is almost needless to remind our readers of it. Everybody will have a few kinds of Pelargoniums, and there are some desirable kinds of Fuchsias for winter cultivation. Many other kinds might be named, but these are some of the best.

THE BUMBLE BEE.

MR. JAMES VICK:—Some of the young people of our town have gotten into a dispute about the Honey and Bumble Bee, and came to me to act as umpire. Failing to convince one of the contending parties, I promised to ask you to give us the truth in your MAGAZINE. Probably the time was not so long ago that you have forgotten it, that you killed Bumble Bees for their honey—having been a boy, I take it for granted that you did. Now, please tell us were you satisfied with the bags of honey found on their legs, or did you break the bees in two and extract the bag of liquid? Part of the disputants are of the opinion that the bag within the bee is its stomach, and the honey is in a partly digested state. The others think that, in some way it will be stored or fed to the young. I am of the former opinion.—UMPIRE, *Illinois.*

It happens in this case, as in most others where there are disputing parties, there is some truth on each side. The honey is in the stomach, that is, in what is called the honey stomach, not the true stomach; but it is not partly digested—it remains in the same condition as it was gathered, and is so delivered into the comb; a small portion only of the honey passes into the true stomach and is digested. Whatever honey is stored in the comb is for the purpose of sustenance in the future. The yellow masses on the legs or thighs of the bees is not honey, but pollen gathered from the anthers of flowers; this substance is mixed with honey to form the food of the young bees.

STORING CALADIUM BULBS.

MR. VICK:—Will you please tell us in the next number of your MAGAZINE how to keep the roots of the *Caladium esculentum*. I took mine up last fall, before they were killed by the frost, and stored them in the cellar, but they all decayed.—G. C. W., *Newfield, N. I.*

Your cellar was probably too damp for them, or, perhaps they were on a damp floor—you do not say. They should be kept in a cool, dry place, and in sand. A good, well-drained cellar usually offers a suitable place, but they should be stored on shelves, and not on the cellar bottom.

AURATUM LILY.—My three-year-old Auratum Lily had six blossoms this year—only two last.—J. P. O., *Taylor's Falls, Minn.*

CLIMBING VINE FOR THE HOUSE.

Can you tell me of some climbing vine for the house that will give better satisfaction than the English Ivy? With some people that thrives, but in my case, try as hard as I may, it will not grow. The leaves turn yellow and it finally dies.—Mrs. A. S. O., *Middletown, Ct.*

It is evident from this statement that the room where A. S. O. keeps her plants is unsuitable for them. The atmosphere, no doubt, is too dry, and perhaps the temperature is too great. We know of no plant that endures house culture so well as the English Ivy. If success cannot be attained with this plant we should hesitate to try any other. The proper thing to do, in this case, is to examine and discover wherein the conditions differ in the room where the Ivy will not grow, from one where it thrives, and then to so regulate the faulty room as to secure a healthy growth of the Ivy. If this should be done, some ideas would be gained about the requirements of plants that would be always serviceable, and we should not fear then to advise a trial of the *Cobaea*, or *Maurandya*, or *Pilogyne*, or any other of the favorite house-climbers. In this room we advise that water be placed in an open dish where it will most readily evaporate, that thorough ventilation be secured, and that plants kept in it frequently have their leaves washed with a sponge, or sprayed with a fine syringe or plant sprinkler. It is not the fault of the plant. With a young, thrifty plant, all its forces combine to secure its growth and prolong its existence; it will often struggle long against adverse circumstances, and until life is unendurable. A room that is unfavorable for the healthy growth of plants is quite unfit to be occupied by human beings.

PLANTS RAISED FROM SEED.

MR. VICK:—Will you tell me in your MAGAZINE, whether the *Wistaria* and the Trumpet Creeper will come from seed? Some say they will, and some they will not, others say that the *Wistaria* will not bloom if raised from the seed. How is it?—Mrs. A. J. P., *Noroton, Conn.*

The *Wistaria* and the Trumpet Creeper—*Bignonia*—may both be raised from seed, and seedling plants will flower as freely as others. Propagation by seed is the universal method of nature. All others are only partial.

GERANIUM SPORT.

MR. VICK:—I obtained last year a *Geranium* having its leaves margined with white, and last spring a new branch on the lower part of the plant produced snow-white leaves. All who see it, say it is a novelty. I enclose one of the leaves.—J. W., *Greenfield, Ill.*

This is a very common sport, not only of variegated-leaved *Geraniums*, but of others. A shoot having this peculiarity is in a diseased condition and cannot be propagated.

WHEAT BRAN FOR THE CABBAGE WORM.

There is a matter very important, though perhaps too late for this season, that I wish to bring to your notice, viz.: that little pest, the Cabbage worm. It has made dreadful havoc of our Cabbage patches this year. There have been numerous remedies presented, but all have failed. It was late in the season that I learned of the following cheap, simple, safe and sure remedy: Take common wheat bran and sprinkle it well on each head where the worm is at work, in the morning when the dew is on, or after a shower of rain, and the enemy will leave; he will not survive the attack—the worms eat the bran so voraciously that they burst. One dose is generally sufficient for a complete riddance of the little pest. I learned this from an old and experienced gardener. It has proved a success in every case where it has been tried, and I want no better remedy. Hoping this hint may be useful to some of your numerous readers who possess a Cabbage garden, I give it free.—J. S., *Peterboro, Ont.*

We should like to hear from any of our readers who may have tried the method recommended above, and learn the result.

PLANTS IN THE SHADE.

The grasshoppers have had the full and entire benefit of all the seeds and bulbs I purchased in the spring, and now I should like to know what flowers I can have which must grow almost entirely in the shade. The most available strip of ground is shaded by the trees in our neighbor's yard. If you can give me advice as to what will grow in such a strip of ground, I will be thankful. I should like Lilies and bulbs of different kinds, which would not have to be removed every year.—E. M., *Yankton, Dak.*

We do not like to advise about raising plants in shaded ground, for the reason that few plants will succeed in such situations. When the shade is not too dense, some plants will succeed. If this is the case with your place, you will probably do well with Lilies which can thrive in partial shade. Violets, *Pæonies*, Lily of the Valley, *Aquilegia*, and some of our hardy, native Ferns will also be appropriate plants; but do not consider them proof against grasshoppers.

WINTERING CALADIUM ROOTS.

MR. VICK:—Please tell me how to keep *Caladium* roots over winter. Give all the particulars, for I tried last year and failed. Must they be dried before putting away? Do you think they keep better in a cellar than they do in a sitting-room.—F. W., *Nora, Ind.*

Caladium roots, *Caladium esculentum*, when taken up in autumn, should be pretty well dried and then placed away in sand on a shelf in the cellar, where the temperature is about 50°. If the temperature is lower than the degree mentioned they will be apt to decay. Anywhere they can be dry and at the proper heat, whether in the cellar or some upper room, they will keep well until spring.

GATHER THE LEAVES.—Gather up the leaves as they fall from the trees, and use them to cover the newly-planted bulb beds.

THE LAURESTINUS.

One of the most satisfactory hard-wooded plants for winter-flowering is the Laurestinus, *Virburnum Tinus*. The persistent, or ever-green foliage is thick and shining, making it a very ornamental plant, even without its flowers.



It grows erect and tree-like, and with but little care it may always be in condition to garnish a room. In March and April it is usually a mass of bloom. The flowers are small, borne in clusters, are white, slightly tinged with red on the under or outside. The plant only requires a fresh, light, rich soil, good drainage, and moderate watering. It is a plant that has long been in cultivation, and is one of our especial favorites.

NEW HARDY SHRUBS.

Prof. SARGENT, in the *American Journal of Science and Art*, says that two hardy, shrubby plants of Nevada may be mentioned, which, from their beauty, are especially worthy of introduction to cultivation. 1, *Cowania Mexicana*, a large rosaceous shrub, nearly allied to *Cercocarpus*, with elegant pinnatifidly-lobed leaves, and large and very abundant yellow flowers; and, 2, a large, shrubby *Spiræa*, *S. milkefolium*, with the foliage of *Chamæbatia*, but a larger and more striking plant, and perhaps the most elegant of the genus.

LILY FOR GRAVE.

MR. VICK:—I want to get a Lily, a white one, for the purpose of putting it on a grave. I want one that will not spread much from year to year, and that does not grow very tall. Can you tell me of one?—Miss B., McLean county, Ill.

We think *Lilium longiflorum* will suit your purpose.

OUR CORRESPONDENTS' QUESTIONS.

It is possible that some of our correspondents may have felt themselves slighted in not receiving answers or some recognition of their communications. It is our rule to reply immediately to all business correspondence, and this rule is seldom deviated from. Often, however, we are asked to name a plant from seeds, a seed-vessel, or some small part of a plant, from which it would be impossible to identify it; often these imperfect specimens are handed to some one who is thought most likely to be able to trace them, and a considerable delay ensues, and, perhaps, at length the inquiry is lost sight of altogether. Sometimes in a business letter there is a question of no particular interest, and, although our design is that even such questions should be answered, yet it happens occasionally, in the hurry of dispatching the order, this question is overlooked. Thus it will be seen that we do not wilfully disregard any inquiries, and as we have the best intentions to please our friends in replying to their queries, we trust they will not hold us very strictly answerable for an occasional oversight.

PANSIES IN HAWAII.

MR. VICK:—I have the loveliest Blue Pansy, and it has so much perfume, too. It was planted in a rustic tub when two inches high, and now covers the whole top, and I counted thirty-two flowers on it yesterday. The flowers are rather small, but it is so sweet, a peculiar perfume, so different from our Tuberose, Jasmynes, &c., that we always notice when on the piazza where they grow.—L. P., Kaneohe, Hawaiian Islands.

SPIRÆA FORTUNEL.

MR. VICK:—Will you please name the enclosed plant? We bought it for a *Spiræa*, but do not know what variety it is. It dies down to the root every year. The flowers are rosy-pink color.—U. & E., Lake City, Minn.

The specimen received is *Spiræa callosa*, or *Fortunei*, Fortune's *Spiræa*. It is a native of China.

IRIS FOR FALL PLANTING.

MR. VICK:—Will you let me know whether the Iris does well if planted in the fall?—E. M. N.

The varieties of *Iris Anglica*, *I. Hispanica*, and *I. Susiana major* are quite hardy and very desirable for fall planting.

HAVE SOME PETS.—The young folks should be encouraged to own and care for pets. It will give them pleasure and teach correct habits as well as thoughtfulness. The *Poultry Monthly*, of Albany, is a good work on poultry, pigeons and pets.

REPORT FROM MAINE.

MR. VICK :—I wish to tell you that the new Amaranth Sunrise has proved perfectly satisfactory. Though not fully conforming to the colored plate given in your MAGAZINE, yet several of the plants were quite as desirable. Every one was distinct in its peculiar feature, the brownish-purple leaves surmounted by fiery red; but still there were pleasing variations, some of the dark leaves having markings of red more or less before the pure red succeeded. Everybody has greatly admired this novelty, and no one need hesitate to purchase the seed, if mine has been a fair sample. I shall take up a few plants to intermix with a box of Geraniums, believing their brilliancy will prove an attractive feature. I distributed a goodly number of them among my friends, so that in several gardens they won admiration.

For the first time I have had a *Lilium longiflorum*, and for two full weeks its pure white fragrant blossom delighted our eyes with its beauty. It measured full nine inches in length.

The Tigridia, or Shell Flower, is another of the novelties with us here that has for several weeks daily unfolded its gorgeous blooms, sometimes five and six at one time. At six o'clock they are opened and in an hour their beauty is wholly gone. I should think that there have been quite fifty already on my three bulbs.

My Geranium bed has been a mass of varied bloom ever since June—double and single, of every shade, while an abundance of scented-leaved of different kinds has afforded the green for my bouquets. Among my new sorts, the Fairy has been specially satisfactory, having the novelty of being striped; color, salmon and bluish white. Bishop Wood, a new double Geranium, is very fine; the upper petals are carmine-scarlet, and the lower petals, violet-rose; large truss and free bloomer. Hon. Evarts is among the new single; light red, shaded with salmon. Victor Hugo, very attractive, large flower and truss of flaming orange; this is double and of rare beauty. Jean Sisley, scarlet with white eye, is one of my special favorites. The Ghost, a new double white, is the purest white we have yet seen. I cultivate Geraniums largely because so easy to grow, so early and constantly in bloom until frost comes, and so nicely kept in the cellar for bedding out in the spring. In August or September I set cuttings in shady places in the garden, and in boxes, for winter-blooming, or for nice plants for the open border. Many people care only for one plant of a sort. If desirable, I bed out half a dozen of a kind, then I can have a plenty of flowers for a friend, and cuttings

also, for much of the pleasure of flowers is derived from sharing them with others.

I raise large quantities of Candytuft, blooming at different times, the self-sown always earliest and finest. This forms the groundwork of a bouquet, giving fine effect to the bright flowers intermingled, and enabling one to be more generous than they could be with wholly rare blooms.

I must say a few words in praise of the *Hydrangea paniculata grandiflora*. It is superb, with its score of creamy panicles of flowers, some ten inches in length. I introduced this fine shrub here three years ago, and it is greatly admired by every one. It blooms from August till the frost blights its blossoms. The fact that it endures the severity of our northern winters, makes it very desirable for cemetery decoration. Everybody with a bit of garden ought to have this choice plant, as it can be purchased for twenty-five cents, and blooms the first year.

I must not forget my Roses, they charm me daily with their fragrance.—MRS. M. D. W., Yarmouth, Me.

EUPHORBIA AND LARKSPUR IN TEXAS.

MR. JAMES VICK :—Seeing in the September number of your MAGAZINE that E. B. J. wishes to know something about *Euphorbia marginata*, I will give you my experience. A relative of mine sent me seed from Georgia. I planted them, but they did not come up until the following spring, when I found it was all native Snow-crown, a name given it on account of its beautiful white crown of foliage. A great many of them planted together make a beautiful background, or two or three planted in the center of a bed, with lower-growing plants around it. It seems to like a damp, moist place, but does exceedingly well in dry soil. It grows from two to three feet out here.

I must tell you, also, of my Rocket Larkspur. I had five distinct colors in the spring—pink, sky-blue, deep purple, white, and bluish-white. I advise ladies wishing a good substitute for a brilliant bed of Hyacinths, to try one paper of seed. It is one of my many favorites. I have no success with the Pæony—have had one four years, but it has never bloomed. I think the summers are too severe for them.

It affords me great pleasure to read your MAGAZINE every month; I could not raise flowers without it.—MRS. E. B. S., Stephenville, Texas.

A POT OF GREEN.—For a pot of green, or better yet, for a basket, the Chinese Yam is excellent. I plant three or four small bulbs in a pot, and they soon cover the pot or basket all over with green.—M.

MY PHLOXES.

MR. VICK :—I don't believe you ever had any better Phloxes than mine. I never saw any so nice anywhere, though perhaps they look better to me than to other people, because they are mine. I send you a box full by the Post Office, to-day, and if they are as handsome when you receive them as they were when I packed them I am sure you will think them very good indeed. I have eleven kinds, though perhaps you will not think there are so many, because some of them are nearly alike. I grew a large bed, and all those kinds, from one paper of seed that cost only ten cents, and I don't know how any one can get more beautiful flowers for so little money.

Early in the spring I sowed the seed in a little shallow box, and I buried the box in the ground, where the sun shone most of the time, and near a fence that kept off the cold wind. Two or three nights I was afraid of frost, and covered the box with a piece of carpet; and after-



wards I thought it best to cover the box every night when it was cold, frost or no frost. I sowed my seeds too thick, or else the seed was too good, so, for fear the plants would be too crowded, when they were very small I took some of them out very carefully. I made a very little wooden trowel, out of a piece of soft wood, not any larger than a pencil, so I could remove them very nicely into another box, and it didn't seem to hurt them at all.

I had my bed ready the middle of May, but the sun shone so hot I was afraid to remove them, so I waited for rain, and the 20th of May it rained in the evening and in the night, and in the morning it was cloudy, but it didn't rain, so I transplanted my Phloxes. I had a stick for a measure, just nine inches long, and put the plants so far apart. Some people said they were too far apart to be neighbors, and they did look pretty small and lonesome, but I had read in your Catalogue that it was best to set plants nearly a foot apart. I made a stick a foot long at first, but it did look so far it seemed as if they never could get big enough to fill the large spaces between them.

The sun began to shine about noon the day I planted them, and the next morning it was clear, so I got up early and spread newspapers over the bed, with some stones on the corners to keep them down. The plants did not wilt at all, at least only three or four of them, and I think I must have hurt the roots of these in taking them up. I kept the papers over them only two days, I think. They commenced growing very soon, and in two or three weeks I began to think my first measuring-stick was the right length. I was surprised to find flowers on the plants when they were so young and small. I don't believe they had been transplanted five days before half of them had flowers, and soon the rest followed, and for more than two months my bed has been glorious

—a mass of bright colors, more beautiful than any carpet-pattern or any dress or silk pattern was ever made. It is now the middle of September, and if the frost will only keep away, it looks as though they would keep on flowering and flowering for years. Tell everybody to have a good Phlox bed, and how to do it. It is the cheapest pleasure possible.

The bed I planted them in was what the boys used for a melon bed the year before. Their melons did not amount to much, but I guess the manure they used helped my Phlox.—CARRIE.

CARRIE is evidently a careful and skilful cultivator. It is surprising what a little care and good sense will do. Some persons, and old persons, too, would have thrown their seeds upon hard, cold ground, then covered them two inches deep, and if a few plants happened to grow, would have set them out in the hottest day, and left them to shift for themselves, and scolded about poor seeds.

The flowers arrived in very fair condition, and we counted nine quite distinct varieties. As we were about making an engraving of Phloxes, we selected a few of CARRIE'S collection for the purpose.

PUBLICATIONS RECEIVED.

The Botanical Text Book. (Sixth Edition.) Part 1, Structural Botany, or Organography on the basis of Morphology, to which is added the principles of Taxonomy and Phytography, and a Glossary of Botanical Terms. By ASA GRAY, L.L.D. Ivison, Blakeman, Taylor & Co., New York; pp. 442; \$2.40.

This last edition of a well-known text book has been entirely rewritten and very much enlarged; it is, in fact, but a section of the old edition, with each subject extended and remodeled, and is one of a series of four volumes that are to replace the former work. This volume is so full and satisfactory that any detailed description of it would be impossible. We can only say that, upon the subjects of which it treats, it takes the leading place of similar publications in this country. The present treatise is intended to serve as a text book for the higher and complete instruction.

First Biennial Report of the State Board of Agriculture of Kansas. Topeka, Kansas; pp. 630.

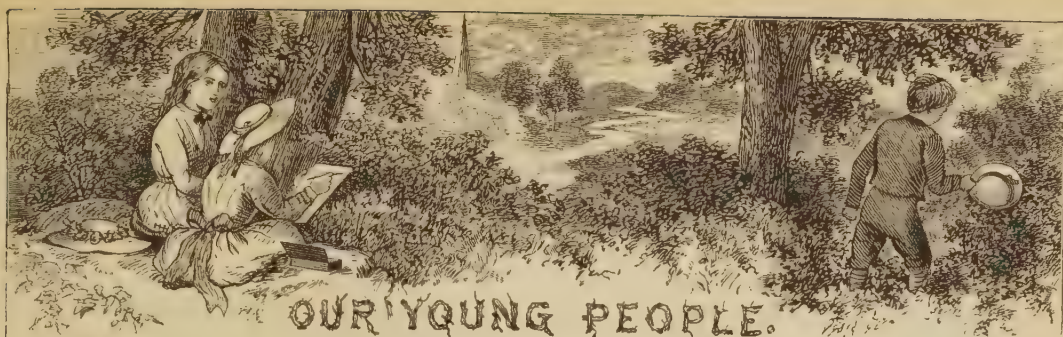
A large, handsome volume, replete with information in relation to this enterprising and fertile State.

Twelfth Annual Report of the Ohio State Horticultural Society, for the year 1878-9. Columbus; pp. 110.

An excellent report, giving evidence of an active and useful society.

Contributions to American Botany. Revision of the N. A. Liliaceae, &c. By SERENO WATSON. Pp. 303.

The Great Speeches and Orations of Daniel Webster, with an Essay on Daniel Webster as a Master of English Style. By EDWIN P. WHIPPLE. With a new portrait. Boston: Little, Brown & Co. Pp. 700, 8vo., cloth, \$3.



OUR YOUNG PEOPLE.

BOTANY FOR LITTLE FOLKS.

How many of us think when we look at a Dandelion, a Daisy, an Aster, a Zinnia, or a Sunflower, that instead of its being one flower there are many single flowers joined together into a head and forming what appears to be one flower, and is commonly called so? If we will look carefully at any of these flowers we shall find that each head is really composed of many little flowers. To make it quite clear, suppose we take a common Dandelion and examine its structure. First, we will notice that the plant has no upright stem; a tuft of leaves start out at what is called the crown, at the top of the root, just under the surface of the ground. This crown, that is a little space so short as scarcely to be capable of measurement, is the real stem. Perhaps it will be better understood if we say that the stem has not been developed or drawn out; it is in the condition a long stem with leaves on would be in, if we can imagine it to be elastic, and if it could be pressed down from the top, crowding the leaves closer together



Fig. 1. Dandelion.

until they were lying on each other and the stem itself reduced to a very short length. The leaves of a plant growing like the Dandelion are said to be *radical*, conveying the idea that they spring from the root, for that is what radi-

cal means; but we know that roots do not bear leaves. The crown is the undeveloped stem. So it is not really true when we say that such plants are radical; the leaves do not spring from the root, they only appear so. We must notice the curious shape of the Dandelion leaves, with their great, coarse teeth point-



Fig. 2.

Dandelion. Unopened bud.



Fig. 3.

Single flower or floweret.

ing backwards, instead of forwards as the teeth of most leaves do. If we carefully take a Dandelion head to pieces we shall find that each of the little yellow parts that look like petals is a perfect and separate flower; in order to see this well it will be necessary to use a magnifying lens. At *fig. 3* is shown one of these flowers much enlarged. It will be noticed that what in the head of flowers appeared to be a straight, flat petal, now is seen to be a tube at its lower part, and this contains the stamens and the pistil. The anthers are all united together so as to form a little tube, and through this tube passes and protrudes the style, which is divided at its upper end into two parts, each on its inner surface having a narrow band that is the true stigma. Looking at the lower part of the flower, we see a great many hairs surrounding the tube of the corolla; these correspond to the calyx of other flowers and must be considered as the calyx of this one. At the base is seen the ovary, upon which all the other parts are situated. Thus we perceive that here is a complete flower, and the head of a Dandelion has probably more than two hundred of them.

A flower like the Morning Glory, which has its corolla all in one piece, like a tube or a trumpet, or any other shape, instead of being divided into separate petals, is said to be mon-



Dandelion Receptacle.

opetalous, that is, having only one petal; another idea is, that such a flower has its petals joined together, and so it is also called gamopetalous, meaning that its petals are united. It is proper to use either of these terms. Each little flower of the Dandelion head is monopetalous; that part of it which is straight and flat has been likened to a tongue or strap, such as is sometimes placed under the laces of a shoe, and it is said the flowers are strap-shaped; and another word to express this is ligulate, which means strap-shaped, or more strictly, tongue-shaped.

As we have now seen that each flower is provided with its own proper calyx in the shape of silky hairs, we are tempted to inquire about the green parts at the base of each head of flowers and which envelope the flowers in the bud like an ordinary calyx; these are called bracts, and together, the involucre. The involucre serves the same purpose for the protection of the flowers of the whole head as a real calyx does of the parts it encloses. Fig. 2 shows an unexpanded head of Dandelion with the outer set of bracts turned back and downwards, while another and inner set are erect and closely sur-



Fig. 5.

round the flowers. The common receptacle, with a few fruits or seeds remaining on it, is shown at fig. 4. The children, when playing with the ripened Dandelion heads, seeking what o'clock it is by the number of seeds left after most of them have been blown away with a puff of breath, become familiar with the appearance of the receptacle. A ripened seed bears an up-

right hair with fine silken rays at its summit. The scientific name of the Dandelion is *Taraxacum Dens-leonis*. The first of these names is derived from a word that means, to disquiet, or disorder, on account of its effect when used medicinally, and the last name means, lion's tooth, referring to the large, hooked teeth of the leaves.

This commonest flower, we now perceive, is really quite different from what as children we supposed it, and presents as great a variation

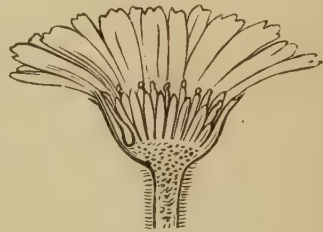


Fig. 6. Section of Marigold.

from an ordinary single flower as we can well imagine. The Dandelion is the children's flower, from the little toddlers to those that can romp in freedom over the meadows and in sunny lanes. It comes in the very early spring and suggests sunshine, light and warmth. Its first appearance at spring-time is like the cheerful greeting of a well-loved friend after a long absence.

The common garden Marigold, *Tagetes erecta*, is in some respects like a Dandelion, and in others it is different. It is like the Dandelion in being a head of many flowers instead of a single one, but when we come to look at the single flowers we find they are of two kinds; those at the edge or circumference of the head are strap-shaped, or ligulate, like those of the Dandelion, while those in the central part are tubular, or tube-shaped. The flowers at the circumference are called ray-flowers, and the others disk-flowers. The flowers in the central part of the head form what is called the disk. At fig. 5 one head of flowers is seen from behind, showing the set of bracts or involucre. At fig. 6 a section of



Fig. 7.
Marigold Stamens.



Fig. 8.
Disk-flower.



Fig. 9.
Ray-flower.

the head is represented showing the position of both kinds of flowers on the common receptacle.

The flowers of the ray and the disk are not only different in form but differ also in character; the strap-shaped flowers of the ray are pistillate, and is seen at *fig. 9* with the style divided at the upper extremity into two parts, and a tubular flower of the disk which is staminate is shown at *fig. 8*.

Here is a condition of things that we have not previously found in any family of plants that has been considered, but the separation of the stamens and pistils in different flowers is commonly found in plants of the kind now under examination. Because these heads of flowers are composed of many flowers they are called composite, and the name of the family or order is *Compositæ*.

In the Dandelion we found all the flowers the same and each one perfect in itself, or having both stamens and pistil; in the Marigold we have seen, the ray-flowers are pistillate and the disk flowers are staminate; in some flowers the



Fig. 10. Scabiosa atropurpurea.

ray-flowers are pistillate and the disk-flowers are perfect, having both stamens and pistil. Sometimes, that is with some kinds of flowers, a head will be composed entirely of pistillate flowers, and another head on the same plant, or on another plant, will be all of staminate flowers. A peculiarity of the stamens of all the flowers in this family is that they are united by their anthers. The filaments are distinct, but the anthers joined together. The stamens of the Marigold are shown at *fig. 7*, resting against the tube of the corolla, the tube being divided and laid open. This feature of the united anthers and that of the flowers being united into a head constitute the distinguishing marks of this family. It is not uncommon to find flowers joined together into a head in many other families, but then their anthers are not united; for instance, the well-known garden flower Mourning Bride, or Scabiosa, has its flowers arranged in a head, but it is not a Composite.

The Composite plants form the largest of all the natural orders of plants, and are a tenth part of all. They are distributed over the whole world; in northern countries they are herbaceous, but in tropical countries and some parts of the southern hemisphere they are sometimes shrubby, and in a few cases they are tree-like. A great many of these plants have been used in medicine, and all of our readers are familiar with many of them, such as Milfoil, *Achillea millefolia*; Camomile, *Anthemis nobilis*; Wormwood, *Artemisia Absinthium*; Tansy, *Tanacetum vulgare*, and others. All those having strap-leaved flowers, perfect and all alike in one head like the Dandelion, have a bitter, milky juice; the garden Lettuce, *Lactuca sativa*, is a plant of this kind, and its juice has a narcotic or sedative effect. Another is the Chicory, *Cichorium Intybus*, used as a



Fig. 11. French Aster.

substitute for Coffee; Scorzonera, and Salsify, or Vegetable Oyster, *Tragopogon porrifolius*, cultivated for their edible roots, are also milky-juice plants.

A great many plants of this family are cultivated for ornament, but perhaps none more generally than that known in our gardens as the Aster; the number of species of the Aster growing wild is very great, in fact, it is so prominent a member of this family that its name has been used by some to indicate the whole order, but it is now more properly restricted to the genus Aster and to some other genera much resembling it, which are united into a tribe and called Aster-like plants, or Asteraceæ. Since the name Aster has been so generally used, it is not strange that it should have been given to the beautiful and popular

flower that bears it in cultivation but which is not a real Aster; its proper name is *Callistephus*, but it has been commonly called an Aster and probably always will be, and who thinks it would look as well with any other name?

The native country of this plant is China, and when first cultivated it was called China Aster, and some old people have not ceased to call it so. When brought from China it was a coarse but showy-looking flower, with a few rows of ray-flowers and a large disk. Under cultivation the flower showed a tendency to increase, or decrease the number of its ray-flowers, and by carefully selecting and sowing the seed from the flowers showing the most change, a gradual development took place towards a head of flowers, either with all flat florets, or flat petals, as they are called, or with all tubular flowers, called quilled Asters. The French florists have done the most in perfecting the flat-petaled Asters, and this style of flower is known in the trade as the French Aster. On the other hand, the Germans have tried to produce a fine flower by having the head composed entirely of tubular florets, and the quilled Asters are, therefore, frequently called German Asters. Within a few years, however, the Germans have rivalled the French in producing fine varieties of the flat-petaled style.

There are few flowers more symmetrical than



Fig. 12. Aster Flower.

a well-formed Aster, such as shown at fig. 12. By what appears to many the magic art of the gardener, but which is really the exercise of skill and patience in developing plants according to well understood natural laws, as great changes have been effected in the Dahlia and

the Zinnia as in the case of the Aster. The Asters that grow wild here, and we mean real Asters and not *Callistephus*, are very numerous and many of them are quite pretty; they are most numerous after midsummer, and all the autumn is made gay with them, in company with the Goldenrods, *Solidagos*, members of the same family. To merely mention all of the Composite plants that are cultivated for ornament would make a long list, but there is one that



Fig. 13. China Aster.

has been consecrated in song that cannot be overlooked. Burns did not immortalize the Daisy, for its modest beauty has enshrined it forever in the human heart, but the exercise of his rare gifts in his exquisite ode to this favorite flower, is one of the many displays of his genius that has immortalized himself.

TO A MOUNTAIN DAISY

ON TURNING IT DOWN WITH THE PLOW IN APRIL, 1786.

Wee, modest, crimson-tipped flower,
Thou'st met me in an evil hour;
For I maun crush among the stoure
Thy slender stem;
To spare thee now is past my power,
Thou bonnie gem.

Alas, it's no the neebor sweet,
The bonnie lark, companion meet!
Bending thee 'mang the dewy weet!
Wi' speckled breast,
When upward springing, blithe, to greet
The purpling east.

Cauld blew the bitter, biting north
Upon thy early, humble birth,
Yet cheerfully thou glinted forth
Amid the storm,
Scarce reared above the parent earth
Thy tender form.

The flaunting flowers our gardens yield,
High sheltering woods and wa's maun shield;
But thou beneath the random bield
O' clod or stane,
Adorns the histie stibble field,
Unseen, alane.

There in thy scanty mantle clad,
Thy snowy bosom sunward spread,
Thou lifts thy unassuming head
In humble guise;
But now the share uptears thy bed,
And low thou lies!

* * * * *

Ev'n thou who mourn'st the Daisy's fate,
That fate is thine—no distant date;
Stern Ruin's ploughshare drives, elate,
Full on thy bloom,
'Till crushed beneath the furrow's weight,
Shall be thy doom!

GARDENING IN THE FAMILY.

We don't know of any one who conveys so much useful information on the subject of gardening, and in such a pleasant way, as ANNA WARNER. Her statements are entirely reliable, while nearly all the authors and newspaper writers make the most ridiculous blunders when they talk of flowers or their culture. We have before us a little book of some three hundred pages, by this popular authoress and published by ROBERT CARLTON & BROTHERS, of New York, in which are described the work and words of a family of boys and girls interested in the culture of hardy bulbs. It is called *Blue Flag and Cloth of Gold*, which our young readers will recollect are the names of two popular flowers. We copy a chapter, which will no doubt interest our young readers and show the character of the book, and also an engraving representing the children busily engaged potting the bulbs.

PLANTING THE BULBS.

However he might talk, Sam was in truth about as ready as the children to make haste, having his own private packet of bulbs to plant. So instead of the long after-dinner debate with his father, which sometimes (as Lily declared) "eat up all the afternoon," Sam yielded at once to the beseeching little hands upon his arm, and followed Prim down to the winter play-room without a word.

"O Sam!" she cried joyfully, "I do believe you've arranged all the arrangements beforehand."

"I do believe I have," Sam answered, proceeding to separate the stacks of pots, and giving a critical inspection to the various tubs of material that stood about. "You see, chicks, I could have had the soil ready mixed beforehand, too, but I thought you had better do the compounding yourselves, to provide for sometime when I am not here."

"Com-pounding," Prim repeated slowly, "do you always have to com-pound for hardy bulbs, Sam?"

"One has to compound for a good many things," said Sam, with a laugh.

"But she means all these tubs," said Lily.

"Well, all these tubs are not strictly essential; common garden soil will do if it is pretty good. But of course nothing will content us this time but 'the very highest results,' and for that we need a compost. See," said Sam, as he wrote a label and set it up conspicuously on a split stick, "this tub contains turfy loam."

"Where do you get that, to begin with?" said Clover.

"Turfy loam, my dear, is another word for decomposed sods, and you can get it from the roadside, or from an old pasture land, or from a heap that you made last spring."

"Oh! but we didn't," said Prim.

"Most true, and therefore this turfy loam comes straight from the pasture. The next tub has sand—sea sand, you perceive, and therefore ready at once for use. River sand would need a preliminary baking."

"Baking!" said Lily. "I never saw such a boy to talk in all my life."

"Baking," Sam calmly repeated; "to kill the small shell fish, which, unless baked, might feed on your bulbs. This tub contains leaf mold; this has manure from the cow yard, so old and crumbly that it looks like mere rich earth. Now for a compost take three parts from tub 1, and one part each from tubs 2, 3, and 4, mix well, and go to work."

Which sage advice Sam enforced by example—seizing a trowel, an old pan and a small wooden measure, and beginning to dip out and pour in and compound in great style. The children looked for a minute, then "fell in," and went at it with a will. Such dipping and counting, such painstaking, laborious work with the little trowels! Sam was at last driven to remind them that an afternoon of mere preparation would leave King William and his court as ill off as ever.

"The soil is mixed enough," he said. "Now choose your pots."

"How 'choose' them, Sam?" said Clover.

"Why, the right size and shape. Are your bulbs to be planted separately, or several together?"

"Dear me!" said Lily, straightening herself up, trowel in hand, "another question! I declare, there are more questions than bulbs. I shall put all mine separate, because I want just as many pots on my table as I can get."

"Very well," said Sam, "these tall, slender pots are the best. Bulb roots care more about working down than about spreading sideways."

"And shall we take the big pots for the big bulbs, and the little pots for the little ones?" said Prim.

"Something so," Sam answered, bringing an armful of bulb pots to where the children stood by their pans of compost. "Unless you like to plant several little ones together. Take a six-inch pot for a Hyacinth, and a five-inch for a Polyanthus Narcissus. Here—you may use my rule, till you learn to know the size by sight."

"And take one of these wee, wee, little,

little pots for my dark blue King William?" asked Prim.

"Well—perhaps, as King William is so very blue, he might have a pot to himself," said Sam. "But the Snowdrops should be planted together—'massed,' we call it."

"I might mass the other Crocuses," said Prim.

"I shall try both ways," said Clover. "Sam, dear, please don't talk just now—I want to think."

said Clover. "It's only the big fat bulbs that are left partly out."

"Some of the roots have no neck to be left out," said Sam; "and they must be covered up an inch or so."

"I should think you'd cover them all, said Lily. "Like Potatoes."

"Only that Potatoes are not hardy bulbs," said Sam; "Don't pack the earth down with your fingers—just give the pot a smart set-down on the table."

"What lovely work!" said Clover, the usual pink spots of pleasure coming into her cheeks.

"But what did you want to think about, Sam?" said little Prim, as she reluctantly covered up King William quite out of sight. "O, I wish Crocuses had necks!"

"Why, it requires some study," said Sam, "to know where all these flower pots are to go when they are filled."

"O, I can tell you that," said Lily. "Mamma said we might have the whole bow window. There are two sides for you and one for each of us."

"But meanwhile?" said Sam.

"What's 'meanwhile?'" said Lily. "I mean now, right off."

"Exactly," said Sam—"and I don't."

"Then what do you mean, Sam, dear?" said little Prim, stopping short in her work, with the last Crocus held fast in her small fingers.

"Why, chick," said Sam, bending down to kiss the earnest face, "if you were to put your bulbs up in the bow window at once, you would probably have no flowers at all. It would be like dressing you up for a young lady and

sending you out into the world, before you have learned geography."

"Now, Sam," said Lily, "you're just fooling us."

"Not at all," said Sam.

"I notice," said Clover, with her thoughtful air, "that Mr. VICK recommends putting them in the cellar for a while, till the roots form."

"Till the roots form," Lily repeated, holding up one of her Hyacinths, a large, solid, splendid looking bulb; "well I should say they were pretty well formed already."



"So do I," said Sam—proceeding to fill pots and put in roots and stick in labels, with the most unthinking despatch.

"You fill the pot 'most full, and then you push the Hyacinth down till it's 'most covered," said Primrose, watching him. "And then you give the pot a good shake, and put in more earth, and a label."

"All correct and true, little sister," said Sam. "Cannot your small ladyship imitate so fair an example?"

"But he covers some of the roots all up,"

"The fibrous roots," Sam explained,—“the long, white threads by which the plant takes in its nourishment from the earth. See—look on the under side and you will find they are already starting.”

"Then I don't see what's the use of the cellar," said Lily, "if they come out without it. Upstairs we could have the fun of watching them."

"Sam, dear," said Prim, how long must they stay in the cellar?"

"Three or four weeks," said Sam; "or you may leave them seven, if you prefer."

"Seven!"

"Three or four!" echoed the children in different tones of dismay.

"I prefer to have mine up stairs at once," said Lily.

"But Sam, after three or four weeks, what then?" said Clover.

"Then," said Sam, "you bring your potted bulbs into a warm room (not too warm), a few at a time, and give them all the sunshine they want to eat, and all the water they want to drink; and then you find that patience has its reward."

"I wish the cellar was upstairs," said Prim, rather dolefully.

"A cool, dark closet will do almost as well," said Sam, "but there are mice in our closets, Prim, and mice wouldn't leave dark blue King William a hair of his head."

"He shan't go in the closet," said Prim with decision; "but the cellar stairs are so steep!"

"I'll carry you down once a day," said Sam,—"will that do? Every morning after breakfast we'll go down and take a look."

"You are certainly the best boy that ever was," said Prim, wrapping her big brother in a very small and earnest embrace. "That will do splendidly, Sam."

"I am going to try experiments," said Lily, "you know that's the way great discoveries are often made. Maybe Mr. VICK didn't care about having them in the parlor at once, and so never tried."

"Having what?" said Sam, "discoveries?"

"Bulbs," said Lily.

"Ha! maybe not!" said Sam, with an air of extreme derision. "I'm too poor in Hyacinths to try experiments myself, Lily, but I shall be extremely happy to look on."

"Well, I shall try," said Lily, "and then when my Hyacinths are all in bloom before one of yours has come out of the cellar, then you'll see. Wouldn't it be fun to write to Mr. VICK about it?"

"I hope it won't be the busy season when you write," said Sam. "The first tidings of

such a revolution of the laws of nature might distract his mind."

"Sam," said Prim, quite awe-struck with Lily's daring, and yet a little fascinated too, "what will become of her bulbs if she does so?"

"I'll show you when we get down cellar," said Sam. "Now you other girls who are not trying experiments, listen once more to directions. Fill your pots nearly full; press the Hyacinth down till it is almost hidden in the earth; shake the pot to firm the earth, adding a little more if need be; water them thoroughly; stick in your label."

"But how do you manage to shake the earth?" said Prim, who with a large flower pot in her small hands was making it describe very slowly many gyrations through the air. Sam laughed heartily.

"Shake it so, mouse," he said, taking the pot and giving it a smart "set-down" once or twice on the table. "Now water them thoroughly, and we are ready for the cellar."

"Oh dear!" said Prim. "I wish they needn't go down there."

"Well, I shall keep some of mine upstairs, as I told you," said Lily. "Now this Hyacinth—look, it's got quite a green shoot already. It's ridiculous to put it down in the dark. The rest may go if you like."

"I don't like," said Sam. "I have nothing to do in the matter but to take down what I am requested to take down."

"Please take mine, then, dear Sam," said little Prim. "I don't want 'em to wait a minute, because I want 'em back so much."

"Here goes, then," said Sam, stowing away Prim's flower pots in a basket. "'Minute by minute hours are made.' Now, Crocuses, do your duty!"

So saying he carefully shouldered the basket, and bidding the children stay where they were, he carried that down first, and then came back for Prim. The others followed.

"How can they grow in the dark so?" said Clover, looking around the cellar. "Sam, you are choosing the very darkest place of all."

"Surely," said Sam. "It is quite too light near the windows. You know we want them to grow under ground, not above it, just now. And besides, all the hanging shelves over there are full."

"Well, we don't want hanging shelves," said Lily; "there's room enough on the ground."

"I do," said Sam. "I cannot afford to plant bulbs for the sole benefit of the mice."

"You don't really mean," said Clover, "that the mice would eat them, Sam?"

"Just that, my wise little sister," replied Sam, as he took the pots from the basket and set them up on a very high hanging shelf.

"But oh, Sam," said Primrose, with her voice full of tears at the prospect, "I never can see them up there! And I can't watch them, or tell how they're growing!"

"You needn't put any of mine up there, thank you," said Lily. "I want a little fun as I go along."

"But the mice, Lily!" said Clover, who had carried on the struggle in her own mind silently, as usual.

"I'll manage them," said Lily, rumaging about. "Here's loads of room upon this bottom shelf by the stairs. It's even higher than the hanging shelf."

"But near the stairs," suggested Sam.

"Do you suppose mice are going to trouble themselves to scramble up those steep steps after Hyacinths?" said Lily. "Why, it's as much as Prim herself can do."

Sam made no answer to that, but having set all his own pots on the shelf, he stood back and waited for orders.

"Put up mine, too, please, Sam," said Clover, with great resolution. "I'm sure it's the best."

"And mine—Oh, Sam!" said little Primrose, "do you advise me to put all mine up there, dear?"

"I do—if you want me to answer truly," said Sam, folding the beseeching little hands in his own.

"Then let 'em go," said Prim, with the air of a martyr. "And I'll just keep a potful of patience upstairs, out of the corner of my garden, you know, Sam."

Sam laughed a little, but I think his eyes gave another answer to Prim's words, too. Very quick and carefully he set her treasures on the shelf, and then lifted up Prim herself, that she might see how they looked.

"And we'll come every day after breakfast," said the little girl, laying her head down on top of his, as she gazed fondly at the red flower pots.

"Every day. Can I do anything for you, Lily?"

"No, thank you," said Lily; "I suppose people had better try their own experiments—and I'd rather, besides."

Sam shook his head a little at that, but said nothing; then suddenly carried Prim off to another part of the cellar, which was very light.

"Look here," he said, giving a kick to an old basket that lay on the floor. It was full of long green stems or shoots, a foot long or more,

that twisted and fell about and lay flat, in the most helpless manner. Then, as Sam stirred the basket, Prim thought she saw some little round roots among the long green tops—roots that looked something very like her beloved Hyacinths.

"More hardy bulbs?" she cried.

"More hardy bulbs!" said Sam, giving the basket another contemptuous kick. "Hardy bulbs that have been neglected, and had their own way, and lived in the light before they were ready for it. Hardy bulbs that tried to grow and have a top without the trifling precaution of having roots first. Beautiful, aren't they?"

"Why Sam," said Clover, laughing, "they are nothing in the world but Onions."

"Well, if Onions aren't hardy bulbs, I don't know what they are—that's all," said Sam; setting off with Prim at such a run that the others never caught him till he got to the top of the stairs.

"Now remember," he said, turning round on the landing-place, "you children are not to go climbing about down there by yourselves. Lily's shelf, of course, is within easy reach of everything, and one doesn't like to interfere with science; but nobody must climb up to the hanging shelf, without my permission."

"And what will they do for water, Sam?" said Clover. "If you are away any time, I mean."

"Won't want any," said Sam. "In such a cool, damp place, one soaking will last till they begin to grow." And Sam set Prim down upon her own feet, and turning round gave his undivided attention to what Lily was about. One by one she brought her flower pots and set them on the shelf by the stairs, while the other two children looked wistfully on. It did seem such a splendid place! There, where she could reach them herself, and watch them from day to day. Prim glanced up in Sam's face to see if there were any signs of his relenting, but not one. Sam was as grave as a judge, and as unmoved. And when Lily took up the two last pots and carried them triumphantly to the full sunshine of the bow window, Prim could not quite keep back a small sigh.

"How pretty they look, Sam, dear, don't they?" she said, squeezing her brother's fingers with a mute appeal for sympathy.

"Very pretty," was Sam's reply. "But now, Prim, I'll tell you a secret; there will never be any thing else pretty about them, except the pots!"

Prim was greatly shocked at this dark whisper, and felt it her duty afterwards to tell Lily. But Lily only laughed.



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